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ABSTRACT

The proceedings of the eleventh annual meeting of the College Reading Association with a theme of "Professional Focus on Reading," consisted of the following papers: (1) "President's Address" (W. H. Cooper); (2) "What Lies Ahead in Primary Reading?" (M. C. Austin); (3) "The Causes and Correction of Verbalism in Reading" (J. L. Cooper); (4) "Extra Stimulation in Reading in the Intermediate Grades" (D. J. Bissett); (5) "Interaction of Psychological and Neurological Factors in Diagnosis of Learning Disorders" (J. C. Abrams); (6) "An Automated Individualized Diagnosis for College Centers" (D. M. Wark); (7) "Reading in the Content Areas: Instruction and Application" (D. L. Shepherd); (8) "A Critical Look at Critical Variables in Reading" (R. M. Clark); (9) "Classroom Implications of the First-Grade Reading Studies" (R. Dykstra); (10) "The Distar Reading Program" (E. C. Bruner); (11) "Diagnosis for the Classroom Teacher" (R. Sawyer); (12) "The Use of Paperbacks in the Classroom: Research and Implications" (S. A. Cohen); (13) "Two Approaches to Literacy Education" (E. H. Smith and R. H. Geeslin); (14) "Effective Pre-Service Education" (H. B. Miller); (15) "The Culturally Disadvantaged Reader's Concept of Reading" (W. E. Blanton); (16) "Behavioral Research in Reading--Implicit Speech" (G. Anderson); (17) "The Importance of Reading Instruction in the Comprehensive Junior College" (G. R. Darnes); (18) "A Write Reading Method for Scientific and Technical Students" (M. E. Adelstein); (19) "Adult Literacy Materials" (D. A. Brown); (20) "Developing College Reading Services" (A. Berger); (21) "Teaching Diagnostic Techniques to Classroom Teachers" (H. O. Beldin); (22) "Individually Prescribed Instruction Reading Program" (J. O. Bolvin); (23) "How Pennsylvania Meets the Certification Issue" (C. R. Colvin); (24) "IRA Standards and Certification" (D. M. Dietrich); (25) "The National Trend and Current Status of Certification Requirements for Reading Personnel" (U. Price and J. R. Layton); and (26) "College Reading Instruction: Past, Present and Future" (W. Pauk). (MS)

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Proceedings

of

COLLEGE READING ASSOCIATION

PROFESSIONAL FOCUS
ON
READING

Clay A. Ketcham, Editor
Associate Professor
Lafayette College

Volume IX

Fall, 1968

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COLLEGE READING ASSOCIATION

THE COLLEGE READING ASSOCIATION was initiated by a group of college teachers who met in 1958 to discuss the feasibility of organizing a professional group for those concerned with the teaching and administration of college reading programs. Since then it has expanded its interests and membership to include those concerned with the training of teachers in the teaching of reading at all grade levels. It has become a national organization interested in promoting professional standards of competency and ethical practice among reading personnel, improving administration, diagnosis and teaching procedures in reading and stimulating and promoting reading research at all levels.

The Annual Meeting of the College Reading Association is scheduled for the Friday and Saturday before Palm Sunday each year.

The Association is responsible for two professional publications. **The Journal of the Reading Specialist** featuring articles, discussions of controversial issues, research summaries, reviews and news from the reading field is published quarterly October through May. **The Proceedings of the College Reading Association** containing abstracts of the major presentations at the year's Annual Meeting is published each fall.

Membership in the Association is open to college and university faculty members affiliated with reading programs and clinics or engaged in preparing teachers of reading and to specialists, consultants, therapists, and supervisors engaged in reading diagnosis, instruction, consultation or research in public or private schools, governmental agencies, industry or private practice at any level interested in the purposes of the Association.

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FOREWORD

PROFESSIONAL FOCUS ON READING

J. Roy Newton, Program Chairman

The Eleventh Annual Meeting of the College Reading Association convened at the University of Knoxville, Knoxville, Tennessee, on April 4, 5, and 6. On Thursday evening, a social hour at the Andrew Johnson Hotel was followed by four seminars arranged by Dr. Robert Wilson. These were well attended.

In the absence of Mr. A. B. Herr, who died two weeks before the conference, Dr. Robert Wilson and Dr. Bruce Brigham, together with two graduate students, Janet Carsetti and James Geyer handled registration in magnificent fashion.

The Friday meetings were well attended. Some 523 individuals participated. Of these, 323 were from Knox County Schools. Mrs. Mildred Patterson had graciously agreed that this day would be an "institute" day for the teachers who had been invited by Dr. William Davies, formerly of the University of Tennessee but currently at the State University College at Oneonta, New York. We welcomed their presence. Friday meetings were planned with our visitors in mind although speakers were also scheduled for college personnel. The Saturday meetings were organized almost completely for college teachers of both teacher-training and reading improvement courses.

The banquet speaker and the two luncheon speakers lived up to the tradition of College Reading Association. Dr. Richard Clark gave an excellently organized talk. His examples of specific cases brought home the theory of his message. Mr. Craig Senft, the banquet speaker, after a unique introduction, held his audience enthralled by his projection of things to come in his topic "Learning Materials of the Future." Dr. Walter Pauk gave us a "nuts and bolts" talk at the Saturday luncheon on "College Reading Instruction, Past, Present and Future."

Our meeting in Tennessee was well worth attending. We hope those who were unable to be present will be with us in Boston, at Northeastern University on March 14 and 15. Please note the change of dates from our traditional Palm Sunday weekend.

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Twelfth Annual Meeting
March 14 - 15, 1969
Northeastern University
Boston, Massachusetts

President's Address

COMMON DENOMINATORS IN READING INSTRUCTION

William H. Cooper
Ohio University

The title first submitted for this address, "Eternal Verities," was rejected by our program-chairman as sounding too much like a sermon. I therefore substituted this one of "Common Denominators," adding "in Reading Instruction" so that you wouldn't imagine that you'd somehow fallen into the evil championship of a meeting of the National Council of Teachers of Mathematics. It's the same talk, of course, so it may still have some preaching in it. Its central theme is that we need to look to those factors which are fundamental and basic and essential, which are common or universal in the teaching of reading.

The reading scene today is marked by astonishing diversity, by dramatic superficial differences in any case. All sorts of things are going on: every imaginable kind of teaching activity and kind of instructional material which might be used by somebody. somewhere. Mark you, I do not say **method.** a word altogether too mechanical, too mechanistic, too rigid to convey what ought to be the **art** of teaching. The expression "teaching method" offends the ear in about the same way that obvious "method acting" offends the human spirit—as in the story of the method-actor who had to have his "motivations" explained to him before he could perform a love scene. Anybody that devoid of feeling, of any sense of what he's doing, isn't going to have his performance improved by employing "the method."

Unless we understand the charactertistics of children and youth—their growth and development and behavior: unless we understand our language and have some feel for it: unless we have some appreciation of the role of the teacher—the nature of teaching and the nature of learning—we too can't be helped much by any so-called **method** of teaching. Well might we say with Camus, "When one has no character, one **has** to apply a method." Such methodists deserve the fate of the self-styled great lover who purchased a mighty tome entitled **HOW to HUG,** only to discover later that he'd bought a single volume from a set of encyclopedia. I wish to insist upon this point: the teaching of reading, too, is more than a **how-to** kind of thing, even though some commercial appeals for kits and machines and laboratories and programs would have us think just that. It's much more than a mechanical-mechanistic set of procedures. The **how-to-method** approach to teaching reading no more results in personal and creative and artful teaching than Paint-by-the-Number produces a work of visual art.

Not only is the current scene of reading instruction marked by astonishing diversity, but the history of reading instruction is also a varied one. We do not subscribe to Mencken's position—which Henry Ford used to like to quote—that "history is bunk." Instead, we recognize the wisdom of John Kennedy's assertion that those who are ignorant of history are condemned to repeat its errors. I need not here do more than sketch this already-familiar history: Nila B. Smith's **American Reading Instruction,** first published back in the mid-thirties and now brought up to date, is perhaps the most widely-known account. A more recent treatment, Mathew's **Teaching To Read: Historically Considered,** is also an excellent one, focusing mainly upon that perennial over-simplified controversy about the teaching of the alphabet and the teaching of words. A great many books and textbooks devote some partial attention to the history of instruction in reading. For example, Fries' **Linguistics and Reading** presents a fairly extensive account of reading instruction in the United States, aiming to point up, as we might expect, the need for recognition and application of those linguistic principles to which the greater portion of the book is devoted. Some of the general pre-service and in-service teacher-education textbooks which offer at least some "setting" or "background" of this kind are Gray's **On Their Own in Reading,** Witty's **Reading in Modern Education,** and Russell's **Children Learn to Read.** All these references demonstrate that history is not bunk—that some appreciation of the past is essential to our understanding the present.

Just what does the history of reading instruction have to tell us? Well, the obvious instruction of history is that down through the only several millenia that man has been literate—and bear in mind that these several thousand years represent a very small proportion of the tens of thousands and probably hundreds of thousands of years during which man has been man, with social organization of some sort and therefore truly functional language—that down through these several millenia a tremendous lot of different kinds of things have been done. Within the far more limited scope of what's been used here and in the past century or two, we have seen the teaching of the alphabet and the sounding of letters and syllables; the spelling of words; the learning of words as "wholes," whatever that might mean, but meaning in any event that in some way or another the reader accumulates a basic stock of sight words, a recognition vocabulary of familiar forms, and goes on to read phrases and sentences and stories; and so on with many more. What's the upshot of all these different approaches or instructional procedures? Why, it's that some children have learned to read from them all, some have had considerable difficulty, and some have pretty much failed to learn to read thereby. The approach, the teaching procedure, the instructional activity—I wouldn't say "method" here to save my life—clearly is not the specific determiner of the outcome in reading instruction.

History reveals to us too that vastly different kinds of instructional materials have been employed. Back in the colonial period it was the **New England Primer** with its rhymed couplets for the alphabet, the syllabary, quotations from the scriptures, and moral admonishments, "In Adam's fall, we sinned all"; "The dog doth bite the thief at night"; "The cat doth play and after slay"; and so on to "Xerxes, the great, did die, and so must you and I;" this last one a sentiment scarcely conducive to mental health. This splendid little volume was also handsomely illustrated by happily indistinct illustrations of the cat killing the mouse, a burning at the stake, and the like. These early times saw also the use of the Horn Book and Battledore and the little sewn samplers: "God Bless Our Mortgaged Cabin," or whatever the colonial sentiment was. One of the most interesting of these early instructional materials was the alphabet made of gingerbread, with the gustatory reinforcement provided that as the child learned each letter, he was permitted to eat it. This practice may have worked all right, but it impresses me as being rather unhygienic, to say nothing of the point that it must have posed something of a dental hazard to the slow-learner. So on through the 19th century, with the early graded collections of Cobb and Murray and the great and good William Holmes McGuffey, who incidentally was President of Ohio University for a period of several years around 1840, and down to the basals and other materials employed more recently in our schools.

What is the lesson of history with respect to all these different kinds of instructional materials? Why, it's again that some children have learned to read with them all, some have experienced difficulty, and some have failed to learn to read with them. Here again the main point clearly to be inferred is that neither is the instructional material the specific determiner of the outcome of reading instruction. To the extent that they've enjoyed fairly widespread use and been continued for some time, all instructional practices and materials have been more or less successful. I say "more or less" advisedly, for while they have all resulted in some highly superior learning, they've all resulted in difficulty and failure too for some learners, and they've all produced highly variable results. And it would be futile to try to demonstrate the superiority of any one over all others.

The current scene is what concerns us here. As some wag once observed, the implicit title of every commencement address is "The Future Lies Ahead." This talk may sound like a sermon, but I don't want it mistaken for a commencement address; I'm not asking you to look ahead, but rather to look around. This current scene, too, is characterized by great diversity. Parallel with the population explosion and the knowledge explosion, the pace of innovation in teaching reading has increased with the passage of time. Just consider what we've seen within only the past decade. We've run from one enthusiasm to another, from one adoption to another; scarcely staying with any one long enough to determine its merits. We've rejected things out of hand without having had them in hand long enough to get to know them. The reading profession, to personify the issue, is somewhat like the crabby old gentleman who had the disagreeable habit of countering every suggestion with "No, tried it once and didn't like it"; one of his victims, being introduced to his son, observed "Your only child, I'm sure."

Within this past decade we've seen: (1) A return to good old-fashioned tried-and-true phonics; (2) Individualizing or "personalizing" instruction (now Individually Prescribed Instruction); (3) Grouping-schemes, such as the Joplin Plan; (4) The teaching of reading in kindergarten and to pre-school children, "Teach Your Baby to Read"; (5) The use of modified alphabets and simplified spellings and other phonemic devices and codes, such as ITA and Words-in-Color and Unifon and the Diacritical Marking System; (6) The application of concepts from linguistics to the preparation of materials and to instructional practices; (7) Programming of reading instruction; (8) The employment of mechanical and electronic apparatus; (9) Team-teaching; (10) Non-grading; (11) Adaptation of content and illustrations to ethnic and cultural and socio-economic characteristics and (12) Providing compensatory treatments for disadvantaged children. By refining some distinctions, the above list could be greatly expanded. The essential point, though, is that there are at least some dozen or so major emphases being employed. Perhaps the "common denominators" among these are not easily identified. They surely do look different.

One kind of an answer to our quest for common denominators is at least suggested by the "then-and-now" evidence. Spache published some years back a summary of such studies under the rhetorically interrogative title, **Are We Teaching Reading?** (His answer is **yes.**) Comparisons made between the reading achievement of children in schools at some given time with that of children 10 or 20 or so years earlier revealed that, in general, children of the later period were equal to or significantly superior to their earlier counterparts. Lanton, a contemporary of mine in graduate school at Northwestern University, compared reading attainment in the Evanston schools of 1953 with that of 1934; he reported differences generally favoring the latter group. A conservative interpretation of the evidence is that reading instruction, as reflected in children's reading attainment, is probably not inferior, anyway, to that of the past. The superiority, though even where statistically significant, is usually found to be not very great. The evidence which we have allows the interpretation that since great changes in outcome do not go along with changes in instruction, the modes of instruction must indeed have something in common.

We are led to pretty much the same interpretation by more recent efforts to identify what makes for superior teaching and learning in reading. I refer here to such contributions as "The Cooperative Research Program in First-Grade Reading Instruction" and **Innovation and Change in Reading Instruction** and **Learning to Read: The Great Debate.** I offer the observation that the evidence which they will present is not unlike that of the history and of the then-and-now studies in that the evidence itself is mighty mixed and clearly does not demonstrate unqualified superiority of anything. Even the preference for interpreting the evidence as showing some probable advantage in emphasizing **code** over **meaning** is not so surprising. After all, that's the system: we do use the letters and the combinations of letters of the Roman Alphabet to encode the phonemes of our spoken language. That association, of course, has to be taught and has to be learned. We all ought to share the bias and the concern for children's being prepared for the demands of life in the future, for their all becoming superior readers, at least superior to what they are now. But, then, we might also wish for them all to be bright, talented, and six feet tall. Some reported differences among treatments, many of them significant, are shown for basal programs and phonics programs and phonemic programs and linguistic programs and all the rest. Note that many measured differences are not significant differences, some significant differences are statistical accidents, and some significant differences are not practical differences, anyway.

I fully concede that what I'm saying is not absolute fact, either, but rather only an interpretation of the facts which have accumulated over this period of a half-century or more. But I do insist that this is an interpretation altogether allowable by the evidence at hand. Again, what I must see in all this effort is that various teaching activities and various teaching apparatus must somehow be far more alike than different; that there are some denominators common to them all. I strongly suspect and therefore suggest to you here that probably one common denominator is somehow a function of teaching. Gage has recently reemphasized that "variations in teaching and educational practice do not make any consistent, significant, or practical difference." Now, it is true that the first-grade studies indicated that teacher-characteristics are not highly related to reading achievement, that there's not even much relationship between the teacher's presence and pupil's attainment—suggesting that it doesn't make much difference whether the teacher's there or not, implying that children might learn just about as much if the teacher would just stay away. But counter to this outrageous notion is the report of a fairly substantial relationship between teaching-experience and achievement. Whether this means that teachers became more effective with experience or whether it's merely that effective teachers persist in teaching is not quite clear; it may be largely the former, as teacher-rating by administrators was a somewhat weaker predictor. In any case, this finding does fall in happily with the position that teaching performance is probably the one factor to try to influence. It falls in properly, too, with my business and that of many of you, which is to do what we can, according to our lights, to enhance the effectiveness of teaching behaviors.

What I submit to you is that the teaching of reading is essentially like the teaching of anything else; that here we have another common denominator. It makes no great difference, with respect to the process of teaching, whether you're teaching a child the response that the final letter of the alphabet is called "zee" (or "zed, as the British say) or whether you're teaching him to write manuscript; to call off ā for **a** or to throw a ball; to match up the color white with **a** or to hold the knife properly for playing mumblety-peg; to recall that the chart says "We went to the airport" or to remember his birthday. Teaching is fundamentally and essentially a process of telling and showing and demonstrating and explaining; of modeling and exemplifying; of ordering the learner to act, to behave, to respond; of seeing and perceiving in his response those probably-present elements which are right and correct and successful and appropriate; of communicating the knowledge of these successes to him so that he knows what he did right; of treating him and his response with proper acceptance and acknowledgement and approval, so that the bond, the connection, the association, the link between the ordered stimulus and his self-recognized response, is reinforced. In short, teaching is the process of eliciting successful new responses. Its consequence, learning, is usually defined as change (and it is), but it may profitably be seen here too as a matter of practicing successes. In this sense, we probably must confess to our sorrow and shame that there's simply not much teaching going on in our schools; happily, there's more learning. All approaches to the teaching of reading are in this sense associative in nature: the establishment of associations which initially are meaningless and arbitrary (whether it's a matter of learning a letter or a sound or a code or a word or whatever) which become truly meaningful and significant only when what's learned becomes a genuine regeneration of language; when that stuff on the paper turns into already-known language.

One final common denominator: Not only are all approaches to the teaching of reading alike in that they are initially all applications of associative learning, they are alike too in that they all seek (or ought to seek) the common goal of fluent, independent, flexible, habitual, critical, selective, and creative reading behavior. In the final analysis, of course, a child's learning how to read is one of the great commonplace miracles and mysteries of life. It's a mystery in that nobody can provide us with a very thorough explanation or description of just what's going on. Whatever the process is, or the processes are, it's far too complex and intricate for our present understanding. It's a miracle in that it usually does happen, though; given any reasonable opportunity to learn, most children do. And it's commonplace, finally, in that it's a miraculous mystery, or mysterious miracle, which occurs millions of times per year, as children enter school and move along through school and address themselves to their learning.

What I have attempted to convey to you here is that the history of reading instruction, the then-and-now evidence, and the analysis of outcomes under various current emphases all come to largely the same effect, with the interpretation, the suggestion, that what we need to do is to focus our efforts upon understanding and directing the processes of teaching and of learning. This is clearly not to say that particular concerns about teaching procedure don't matter, or that we can safely ignore the concern for having suitable instructional material. What I do say is that these can largely be matters of preference. The teacher who has an understanding of the role of the teacher, according to the model which I have suggested, who teaches deliberately and purposefully and carefully, might use any approach effectively. Any kind of instructional program or material consonant with the learner's interest, interest not just in the sense of his tolerating or even liking, but which elicits from him an active, dynamic, sustained, seeking and demanding to learn, surely will result in his learning. We might well shift part of our attention away from preoccupation with programs and materials, from preoccupation with always looking forward to innovation as the panacea; to look inward, as it were, to our essential business of dealing with the fundamental teaching-learning process, and to look backward over our long proud history of quite impressive literacy. I suggest to you that we're somewhat in the position of that Boston lady, afflicted by the vapors or whatever, suffering from all sorts of vague dissatisfaction and anxiety and self-depreciation, whose psychiatrist suggested that she travel. She replied, "Well really doctor, I shouldn't mind traveling, but where is there to go?" And, you know, she was right: she was already there. And we are here with our problems and concerns, and there's nothing for it but to live with them and to work on them. I'm reminded finally of the story of an eager new agricultural extension agent who went about the county urging farmers to come in to the county seat to take courses in improved farming techniques. One old fellow told him, "Nope, I don't need to learn no more about how to farm; hell, I ain't farmin' now half as good as I know how." Ours is the field of reading instruction; let's go back out into that field and go to work . . . .

WHAT LIES AHEAD in PRIMARY READING?

Mary C. Austin
Case Western Reserve University

Contrary to **Learning to Read: The Great Debate,**[1] primary reading programs of the next decade will **not** revert entirely to a synthetic-phonics or code-emphasis approach. Already, however, several school systems and various reading reform groups are implementing Jeanne Chall's major recommendation. It is also true that some authors and publishers are hard at work developing coding exercises for beginning and older pupils. To many readers of **The Great Debate** these actions may appear logical. In their search for panaceas, uncritical readers will ignore the qualifications which accompany Chall's primary conclusion, and without these qualifications these same individuals will form hasty, inappropriate judgments.

Obviously, changes to improve initial reading instruction are both needed and inevitable. Leading educators have never been content to maintain the **status quo**; they are continually seeking more effective approaches to each area of the curriculum. In reading, the momentum for change has accelerated during the past ten years. Today's teaching methodology and materials reflect some of the directions that primary reading instruction can be expected to take in the immediate future.

Methodology

Currently, there are more programs and systems available for beginning reading than for any other reading level or for any other area of the curriculum. The present decade has brought us i/t/a, the language experience approach, Words in Color, more than thirty phonics innovations, various linguistics programs, O.K. Moore's responsive environment, a new focus upon individualized reading, a revival of the Montessori method, programmed learning, and countless basal readers. Even though each new program has staunch supporters, research evidence to demonstrate the superiority of a single, specific approach is notably absent. Moreover, an interesting phenomenon has been evident during the past century. Perhaps this is best illustrated by reference to an early experiment in Boston and to similar results during more recent times.

William B. Gillooly[2], a school psychologist, studied the annual reports of the School Committee of the City of Boston for the years 1872-76. He found that Boston used a "Pronouncing Orthography", a fairly phonically regular type, in which it had some beginning readers printed. A first wave of enthusiasm for the use of the new Orthography in a few pilot situations led to its gradual acceptance throughout the city, but within five years the approach was discontinued. Apparently, when all teachers of beginning reading employed the new method, it lost its aura of distinction and reading achievement scores were no better than those obtained by a traditionai orthography.

The novelty effect of any new approach was examined by Chall who stated:[3]

> . . . during the period when systematic phonics was the "in" method according to Nila Smith, the authors of two of the three studies concluded that the innovative method, look-say, was better.
>
> When look-say was the accepted method (from 1920 to 1935), in theory at least, all the studies concluded for phonics—twice as many for systematic as for intrinsic phonics. But while systematic phonics may have been the "out" method then, albeit only in theory, it had probably not yet been "out" long enough to be innovative again and to bring with it the novelty effects of new methods.
>
> Between the period of the debate (1955 to 1965), and when intrinsic phonics was still the dominant approach (and systematic phonics old enough to be innovative again), there seems to have been a real build-up of conclusions for systematic phonics.

History, indeed, repeats itself, and children appear to have continued to learn to read as well as before, despite this "in again, out again, Finnigan, game" we've played with them.

As you know, Jeanne Chall's thesis is that the best beginning reading results are achieved by using a code-emphasis method (i/t/a, linguistics, or phonics). How she arrived at this conclusion on the basis of an analysis of **nine** studies which compared a sight-word with a phonics-first approach, may well be the mystery of the present decade, particularly since the recommendation followed her dramatic denunciation of these same studies as "shockingly inconclusive"!

Actually, Chall's analysis of reading research between 1912-1962 was completed before the results of the USOE studies became available, although she devoted a brief section of **Learning to Read** to an initial report of the 27 projects which represented the largest coordinated effort ever attempted in the area of reading methodology. More recently, an entire issue of **Reading Research Quarterly** (Summer, 1967)[4] has focused upon the first year findings of the Cooperative Research Program. A summarizing statement follows:[5]

> The analysis of methodology indicated that the various non-basal instructional programs tended to be superior to basal programs as measured by word recognition skills of pupils after one year of reading instruction. Differences between basal and non-basal programs were less consistent when measures of comprehension, spelling, rate of accuracy of reading, and word study skills constituted the criterion of reading achievement.

Now, as reports are forthcoming from the second and third year follow-up studies of children who participated in this broad-scale cooperative research, the evidence continues to accumulate that there is no single, best way to teach beginning reading. Instead, children learn to read equally well with very different teaching methods. The truly important factor in creating good or poor reading achievement is the **quality of the teacher.** Fry's three-year project publication, for example, indicated that the effect of a good first-grade teacher can still be seen at end of the third grade. The correlation of .59 at the close of the second year is surprisingly high, while the correlation at the end of the third year, though a somewhat lower .21, showed that teacher influence was still in effect.[6] This finding reaffirms a belief which most of us hold, namely, that we should have excellent teachers in first grade.

Since there is no single, best approach to reading, a number of schools in the future will permit effective teachers to exercise greater choice of reading methodology, as illustrated by the request of an elementary school principal from the innercity schools of Cleveland. He asked Case-Reserve to conduct a summer session for his teachers, kindergarten through grade 6, developing three or four approaches in depth. At some point during the workshop, each teacher will commit himself to the method which he wants to try with his pupils next year. This administrator recognizes that enthusiastic, well-prepared teachers are requisite to the reading growth of children.

Many educators agree that it is long past time for discarding the debate about whether Method A is better than Method B as an instructional vehicle for all teachers and for all pupils. We must move from debate to action as we seek to clarify and redefine goals for beginning reading instruction. Or, as Gray stated in the **Encyclopedia of Educational Research** (1960),[7] the issue is not which method is better but rather what the contribution of each method is. The ideal, of course, seems to be to seek a combination of methods and materials for use in providing better reading programs while also giving teachers freedom to take individual differences into account.

A county school system in Ohio is already attempting to determine how two programs, a basic phonics and a basal reading series, can be used together effectively to teach essential reading skills and to develop interest in reading. This system will examine the effect that timing, emphasis, and unique characteristics of each approach has upon first-grade children throughout its rural area. I believe that other systems will try other combinations of methods, thus moving completely away from the idea that a single method benefits all children.

Other possible directions for primary reading instruction include the following:

1. A study of cultural diversification as a variable in the selection of reading techniques and materials should be undertaken.
2. In the near future, many public nursery schools will be provided for three-and-four-year-olds. Under these conditions some children will be ready for reading earlier than at the present time. Certainly, new concepts of reading readiness will evolve, thus necessitating changes at the primary levels.
3. Increasingly, there will be greater individualization of instruction, not just according to levels of ability but according to varying styles of learning.
4. Diagnostic teaching or instructional feedback will become more prominent in the future. As a result, learning disabilities can be prevented entirely or at least receive earlier corrective measures.
5. The role of the computer as an assistant in the development of ability will be recognized more fully. It can aid in the development

of ability in phonics, in the development of advanced strategies of word analysis, and in the development of understanding of printed discourse. Having utilized the computer for these purposes, however, schools should promote even more vigorously than in the past, the notion that pupils must read extensively on their own. Independent reading should become a major objective, because it is the ultimate goal, **per se.**

A word of caution: with all the flurry over new approaches to beginning reading, a truism is necessary. Dozens of linguistic readers, for example, can be published, but unless a reading program is teachable, it is chaff and not wheat, no matter what label is stamped on its package. To be valuable, a program must be an effective instrument in the hands of a confident and competent teacher. Therefore, it has to have basically sound content, linguistically and psychologically, clear procedures for children, and practice material that leads to the achievement of the goals inherent in the philosophy, psychology, and methodology of the program. This kind of analysis of all programs may help in evaluating their appropriateness for the classroom.

Instructional Materials

A tour of the exhibit hall adjoining any major reading conference confirms the now accepted reality that a gadget-materials explosion is upon us. Unlike other explosions, however, too many people have become eager, insistent sacrificial lambs. Sometimes our own naivete has resulted in the spending of huge federal sums for fraudulent wares or for programmed-failure-producing materials. At other times, our good advice has fallen upon the deaf ears of those who control the purse-strings, and despite our outraged cries these individuals have embarked upon a purchasing binge. It is entirely possible that when the educational history of this decade is revealed to those living in the 21st century we will be designated as the victims of the most scandalous swindle ever perpetrated in the guise of instant reading reform! For this reason alone, among others, IRA delegates to the Tenth Annual Convention adopted a "Buyer Be Wary" resolution:[8]

> 1. Statements of possible benefits from reading improvement services should be characterized by modesty and due caution for the limits of professional skills, which do not encompass cure-all powers.
> 2. The possible causes of inadequate or poor reading skills are many. There is no single treatment or approach known which will effectively correct all possible causes of difficulty
> 3. No ethical person who is a professional in the area of reading improvement can or should guarantee marked improvement of skills for all users of his services.
> 4. Distributors of reading devices or materials have an ethical obligation to submit their products to fair scientific trials before marketing, and to make the data of these evaluations available to all prospective purchasers.

Hopefully, these cautions will be observed throughout the current technological revolution.

Unlike typical explosions, the present-day situation can be directed toward constructive results. New materials and equipment in the classroom can help to revitalize the curriculum; they can bring about exciting changes in pupil interests and attitudes. But these benefits will be forthcoming only in those schools which adopt procedures for keeping on top of the rising tide of materials for beginning readers and for evaluating all teaching-learning innovations according to predetermined professional standards. In systems where such practices are in effect, wise decisions are being reached and public monies are being expended to the advantage of both pupils and teachers. In one district, for example, where none of the following had been available previously, dictionaries were purchased for the primary levels, quantities of trade books were added to satisfy a wide range of abilities and interests, some tape recorders, listening center units, and primer typewriters were furnished, and a number of television sets were purchased for use on a shared basis by primary classrooms in that district. The appropriate use of new materials and electronic devices can be expected to whet children's intellectual appetites and to augment their learning.

On the other hand, in schools where there are no established guidelines, wasteful expenditures probably will continue to be the major course of action. One county proudly announced the purchase of $3.000 of machines and books for each newly formed reading center room. These items were placed in the hands of relatively inexperienced young teachers who became so frustrated by not knowing what to do with them that several ignored the new equipment entirely and proceeded to teach corrective reading groups from familiar basal series. Another system spent $20,000 on machines when it lacked text and trade materials in its classrooms and had no elementary school libraries. When asked about his purchase, an administrator retorted defensively: "The money had to be spent! At least we have the machines."

In an era when educators generally are attempting to give more than lip-service to individual differences among children, many schools are re-examining their present procedures and materials. Based upon the findings of the recently completed Western Reserve University study of ESEA Title I Reading Programs throughout the U.S. during 1966-67, I can state positively that a major impact of Title I may be felt through the use of instructional materials to meet the reading needs of economically deprived pupils. There was general agreement that aids from basal readers to computer-assisted programs are essential, but few agreed either on which of a long list were most essential or on how they were to be used. Despite diverse views on this matter, however, there was unanimous concurrence that teachers must be instructed in the appropriate use of instructional tools. They must be given supervised practice periods until they gain confidence and skill in handling equipment, whether they are working with a relatively simple filmstrip projector or one of the more complex pieces of electronic hardware.

Within the 60's we have witnessed the advent of computers which use programed reading materials for self-instructional purposes at all levels from the beginning years through high school. Undoubtedly, in the immediate future, these computers and other devices will incorporate instant feedback systems which may be programed so as to be developmental rather than informational. We have also seen the development of educational T.V. It is safe to predict the widespread use of T.V. as a medium of teaching reading in schools and homes by 1980. Inevitably, the increasing influence of private industry on educational technology and methodology will result in an avalanche of both software and hardware for our classrooms. There is already the distinct possibility that use will be made of a full-sized T.V. screen of some 5 x 5 feet which can operate from capsules, instamatic fashion, and which will be heard by children through individual receivers according to their needs.

There will be significant changes in testing and evaluation procedures. Traditional tests of mental maturity have given false results for disadvantaged youth. One system (Mt. Vernon. New York) has designed a new technique for assessing the intellectual ability of the culturally disadvantaged. Based on the theory that a relationship exists between intelligence and the rate of speed with which brain waves respond to a stimulus, the new technique measures the way the child's brain responds to a flash of light. Whether this test will be valuable, cannot be predicted. We can expect, however, that growing concern about culture-free tests will stimulate much activity in this area during the next decade.

The great variety of auto-instructional programs will call for different techniques for evaluating their usefulness. Ideally, too, the measurement of achievement will be more in harmony with individual learning patterns. We shall require evaluative instruments to determine the effectiveness of differential treatments according to learning styles of pupils. New yardsticks and new terminology will be needed to supersede the "grade level" types of evaluation we now do.

All in all, priority should be given in the near future to a conference which devotes a considerable portion of time to the use of technology in reading instruction.

Bibliographical References

1. Jeanne Chall, **Learning to Read: The Great Debate**. New York: McGraw-Hill, 1967.
2. William B. Gillooly, "The Boston Reading Experiment (1866-1879): The Evaluation of an Early Educational Innovation Which Was a Forerunner to the Initial Teaching Alphabet." Mimeographed. Paper presented to the fourth International Initial Teaching Alphabet Conference, McGill University, Montreal, Canada. August, 1967. (As cited by Fry in reference below, p. 9.)
3. Chall, op. cit., pp. 132-133.
4. Guy L. Bond and Robert Dykstra, "The Cooperative Research Program in First Grade Reading Instruction," **Reading Research Quarterly**, 2 (Summer 1967). 5-142.
5. Ibid, p. 5.
6. Edward B. Fry, **Comparison of Three Methods of Reading Instruction (ITA, DMS, TO): Results at the End of Third Grade**. (Report of Cooperative Research Project no. 3050). Washington, D.C.: U.S. Office of Education, 1967. p. 31.
7. William S. Gray, "The Teaching of Reading," In **Encyclopedia of Educational Research**. New York: Macmillan, 1960. pp. 1114-35.
8. " 'Buyer Be Wary' Cautions I.R.A.," **The Reading Teacher**, 20 (April 1967). p. 599.

THE CAUSES AND CORRECTION OF VERBALISM IN READING

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The verbalizer in reading is one who is characterized by ability to pronounce words rhythmically and with unusual facility, but with little or no comprehension of what has been read. He seems to have difficulty keeping his mind focused on the task at hand; his attention tends to wander even though he may think he is making a serious attempt to concentrate.

In order to deal effectively with the prevention and correction of verbalism in reading, let us consider some of the major causes and what can be done about them. Although there are several factors which contribute to the creation of verbalizers, most of them can be placed in two major categories: 1. experience background deficiencies, and 2. a combination of several factors which contribute to the reader's inability to keep his mind focused on the reading matter.

Experience Background Deficiencies

Reading is essentially a process of reconstructing one's own experiences back of the printed symbols. If a child has not had meaningful experiences that are related to the content he is expected to read, the reading will be empty of meaning even though the words may be pronounced correctly. It is indeed impossible to think at all beyond the most everyday concepts without the instruments with which to formulate thought. Meaningful vocabulary built from a rich experience background is not the least of these.

Experience background deficiency is a much more crucial problem in the middle and upper grades than it is in the primary grades. Stories and selections included in primary reading are purposely chosen to represent things with which the child is familiar in his immediate enviroment. From the fourth grade on, however, the child must increasingly read at a creative level because then the things, the people, and the scenes he meets in print are often outside the realm of his immediate experience; and, in reading about them, he has to "make up" a response. That is to say, he must draw upon his background and his imagination. Despite this need, it seems that the amount of classroom time devoted to enriching experience background is inversely related to the increase in grade level. The higher the grade level, the less that is done to prepare the child for his reading. The opposite, of course, should prevail.

If children are to read intelligently materials that are saturated with strange concepts, some provision must be made for clarifying these concepts before the reading is undertaken. Therefore all teachers, and especially intermediate grade teachers, should survey their textbook materials to identify strange concepts and vocabulary, and then take whatever steps are necessary to clarify these before the reading is done.

To accomplish this purpose, a wide variety of learning aids should be employed, whenever possible using first-hand experiences in which the child engages in or observes the actual activities themselves. Since it is not always possible to have children participate in or observe the activities or objects themselves, various representations of reality such as scale models, motion pictures, television, flat pictures, maps, and other audio-visual aids must be used. It is doubtful, however, that there is much of a place for such artificial and misleading activities as making a papier maché model of a volcano or constructing a dairy farm on a sand table, particularly if a real dairy farm is nearby.

In short, what I'm really saying is that activities for enriching experience background should be as close to actual doing as possible in order to secure accuracy of facts, and that the use of language in any form, such as reading or discussion, is a hazardous means of overcoming experience deficiency.

Factors Which Contribute to Inattention

Bear in mind that all of us are verbalizers when we read materials for which we do not have adequate experience background. Conversely, a person may have adequate background of experience for the material he is reading and still be a verbalizer if he can't keep his mind focused on the material. For various reasons any individual may on occasion take mental excursions while reading. On the other hand, with some individuals these mental wanderings become habitual. Since a substantial percentage of children do suffer from habitual inattention when reading, let us consider some of the factors which contribute to it.

Prolonged exposure to too difficult material.—Pupils whose immaturity and lack of reading skills make them unable to read intelligently a single page of simple narrative material often are asked to study and recite literature that challenges cultured adults. When a child is exposed to materials at his frustration level he tends to focus his attention on the identification of the strange and difficult words, with little or no attention to meaning. Prolonged exposure to materials at the frustration level will cause this inattention to meaning to become habitual, and it will persist even when the difficulty of the material is reduced to an appropriate level.

The solution to this problem is obvious: Simply avoid having children work in materials that are unsuitable from the standpoint of difficulty. Although space limitations will not permit a discussion of criteria for judging the suitability of reading material, a rough rule of thumb is that primary grade children should not encounter more than four unknown words in 100 running words and intermediate grade children not more than six.[1]

Reading without a purpose.—Another contributing factor to habitual inattention is reading without a purpose or motive. Yet elementary and secondary school pupils frequently are required to read orally for no reason other than to demonstrate to the teacher that they can pronounce the words.

An excellent example of absence of pupil purpose is the old type of "around-the-room" or "start-stop" reading lesson, still found in some school situations, where a child is called upon to read orally a few lines while the other members of the class are compelled to follow along in their books. After one child has rattled off a few lines, the teacher stops him, rouses the next child, and starts him on his turn.

Since such reading lessons are entirely without purpose, when one pupil reads orally the others often find it convenient to "tune out" in order that they may think of more interesting things as they appear to scan the printed symbols. There is neither a real audience situation nor personal motive for the reading. Consequently, both the reader and the listeners fall into the habit of letting their thoughts wander. This inattention can become habitual and subsequently will carry over to all reading situations.

How can we help children develop purposes for reading? One thing is to keep before them one or more motive questions. It has been known for many years that superior results are obtained, both on immediate and delayed recall, through reading guided by questions as compared with careful reading and rereading without guiding questions.[2]

In making a reading assignment, the teacher will sometimes help to set the purpose for reading by a preliminary discussion giving an overview and setting questions to be answered as the selection is read. Although teachers can help establish purposes for some of the reading the child must do, the reader must also learn to set his own purposes, or discover for himself what it is he is looking for when he reads an assignment. One of the best ways of doing this is to teach the reader how to make a preliminary survey of the material in an effort to anticipate as much meaning as possible before the actual reading is undertaken. In teaching pupils to do this survey, we must help them develop skill in discovering the author's outline. In any well organized textbook the outline by which the author wrote the book or chapter usually is indicated by a systematic series of headings. The sole purpose of these headings is to make it easier for the reader by serving as visual clues, much the same as signs along the road aid the motorist. The reader must learn that these headings have values, that center headings usually represent major divisions of a chapter or selection and that side heads represent subdivisions of these various center heads. By surveying these headings the reader not only discovers the author's outline but also receives an overview of what the selection is about, thus getting clues as to what to expect when the reading is done.

Once the reader has developed the habit of surveying a selection before he reads, he will save himself a good deal of time because the actual reading will consist of filling in details of an organization with which he is already familiar. Moreover, this preliminary insight will help to keep the mind focused on the material, thus preventing the lapses of attention that otherwise might occur. It soon will become evident to the reader that it is much easier to find something if he knows what it is he is looking for.

Poor listening skills.—Still another factor which contributes to chronic inattention when reading is inattention when listening to someone talk. In this connection, two findings supported by research seem important: 1. the school activity engaged in most frequently by children is listening,[3] and 2. children, on the average, are actually poor listeners.[4]

What does all this have to do with the verbalizer in reading? It has been clearly established that reading and listening are somewhat analogous processes in that each involves the act of perception and that these two receptive skills are closely related.[5]

Since reading and listening do appear to involve the same mental processes, it has often been hypothesized that programs designed to improve listening ability will result in a concomitant improvement in reading achievement. This hypothesis has been confirmed.[6] It is not surprising, therefore, to find that programs for the improvement of listening skills involve the same types of materials and the same subskills that are used in the correction of the verbalizer in reading. The major difference in the two programs is that the materials are presented orally on the one hand, requiring the pupil to listen, while on the other hand the same types of materials are presented in written form, requiring the pupil to read them himself.

Some of the types of reading exercises that can be adapted and used for listening purposes are: listening to and carrying out directions, listening for main ideas, recognizing sequence of events, using the context to get the meaning of a word, interpreting figures of speech, recognizing cause and effect, predicting outcomes, distinguishing between fact and opinion, drawing conclusions, recognizing propaganda devices, and the like. There is now little doubt that practice in listening for these purposes improves pupils' ability to read for the same purposes.

Lack of interest—Finally, there is one other factor which contributes to chronic inattention in reading: lack of genuine interest in and a love for reading. All too often we have been disposed to consider the task of teaching children how to read as the sole function of the reading program. No one, of course, can deny that before a person can develop reading interests, attitudes, and tastes he must first master the basic mechanics of the process. However, many children have been subjected to reading programs which undoubtedly have taught them how to read with some degree of skill, but which have left them with the attitude of the earnest young pupil who remarked, "Now that I've learned to read, do I have to?" If the majority of a child's reading tasks are of little interest to him, it is only natural that he develop habits of inattention when reading.

The test of any reading or literature program is whether or not the children in it or graduated from it read for themselves. Among our major tasks as teachers of reading and literature are the development of a genuine love for reading and lifetime reading habits. Then inattention during the act of reading will cease to be a problem.

Bibliographical References

1. J. Louis Cooper, "The Effect of Adjustment of Basal Reading Materials on Reading Achievement." Unpublished doctoral dissertation. Boston: Boston University, 1952.
2. Eleanor Holmes, "Reading Guided by Questions Versus Careful Reading and Rereading Without Questions," **The School Review**, 39:361-71, (May 1951).
3. Miriam E. Wilt, "A Study of Teacher Awareness of Listening as a Factor in Elementary Education," **Journal of Education Research**, 43:626-36, (April 1950).
4. Vivian Zirkin, "An Experiment in Listening," **Clearing House**, 31:482-86, (April 1957).
5. Clyde W. Dow, "Integrating the Teaching of Reading and Listening Comprehension," **Journal of Communication**, 9:118-26, (Autumn 1958). R. S. Hampleman, "Comparison of Listening and Reading Comprehension Ability of 4th and 6th Grade Pupils," **Elementary English**, 35:49-53, (January 1958).
6. James M. Skiffington, "The Effect of Auding Training on the Reading Achievement of Average Eight-Grade Pupils," Unpublished doctoral dissertation, Storrs, Connecticut: University of Connecticut, 1965.

Abstract

EXTRA STIMULATION IN READING IN THE INTERMEDIATE GRADES

by
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Three types of extra stimulation are worthy of consideration: extra teacher time devoted to teaching reading, extra student time devoted to practice in reading, and extra motivation and reinforcement leading to greater amounts of student reading outside of school.

Instructional plans for increasing teacher time devoted to reading as yet have not achieved the desired results. Frequently increased teacher time spent on reading accomplishes no increase in that proportion of time devoted to any one student's reading.

Increasing student time devoted to reading independently in the classroom frequently results in decreasing time spent by the teacher in teaching any one student. Instructional plans must be devised to increase both student reading and instructional time devoted to reading by the teacher, or to increase one without decreasing the other.

The alternative which seems likely to be the most productive is that of increasing student time spent in reading outside of school. One of the best procedures for accomplishing this is contingency management in which outside reading is heavily reinforced.

RECREATIONAL READING IN THE INTERMEDIATE GRADES

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Parents, teachers, and reading authorities often refer to the intermediate grades as being a "Golden Age of Reading" for children. If we were to believe all that we read, we would assume that children in grades four through eight read voraciously, plowing through great mounds of books with unrestrained glee. They don't.

It is difficult to discover where this "Golden Age of Reading" idea began. It is certainly not indicated in the results of the few research studies in recreational reading that have been conducted. Most of the generalizations that we find common to writings about recreational reading come from random observations of experienced teachers or from unchecked hunches of leaders in the field of children's literature. Let us check some of our generalizations with some research studies.

How much do children in grades four to eight read outside of school? Do boys or girls read more? Do high I.Q. students read more than average or low I.Q.? Do those achieving better in reading skills read more? Cleary[1] studied the reading patterns of 491 children in Elementary and Junior High School in Detroit. She found the mean number of books read per month was 1.8. This number did not vary significantly as a function of the measured I.Q. of pupils (low 1.4, average 1.9, high 1.8 per month). Wollner[2], in an intensive study of a smaller number of students, also concluded that amount of reading did not vary according to I.Q. level of students. LaBrant and Heller[3], in a study done with Junior High School students in a laboratory school setting, found the average number of books read per month in grade seven was 2.4, in grade eight 2.0, and in grade nine 2.4. LaBrant and Heller found significantly more books read by girls than by boys at all levels.

Monohan[4] found in a school without a centralized library that children were reading in the following amounts: in grade four, boys were reading 1.7 books per month, girls 3.25; in grade seven, boys and girls were reading ½ a book a month; in grade eight, girls were reading ½ a book a month and boys were reading virtually nothing. In a school with an active centralized library program the amounts were quite different: in grade four, boys 3 and girls 4 books per month; in grade seven, boys 2.5 and girls 3 books per month; in grade eight, boys 2.5 and girls 4 books per month.

Woolcock[5], in a study of 85 above average I.Q. high school girls found a range of reading from 0 to 35 books a month with a mean of 3 books per month. Burger, Cohen and Bisgaier[6], in a study involving 352 fifth grade children in New York City found that under normal classroom instruction conditions children read an average of 1.25 books per month.

In an unpublished study conducted in 1966 in Wyoming County, New York, with a small population of fifth grade children from rural homes, investigators from the Reading and Language Arts Center, Syracuse University found indications that the average number of books read was less than 2 per month, that children of average intelligence read more than those of below or above average intelligence, that over a short reporting period children with low intelligence scores read amounts about equal to those with high scores, but that children with high intelligence read in spurts. Over a longer period of reporting we suspect that high intelligence students would read about as much as those with average intelligence.

Several studies have been conducted which attempt to isolate the factors which stimulate reading and give us the answer to that all important question: What makes some people read more than others? Unfortunately, these studies have not yet yielded much evidence upon which to base a good answer to the question.

Wollner found the amount of reading influenced by many factors and suggested that generalizations about single variables are inadequate interpretations of the interrelationships of many factors that cause some children to read more than others. Strang[7] concluded that reading is influenced by a maze of enviromental factors and individual predispositions. Strang did, however, attempt to list the factors both enviromental and individual that stimulate reading.

In our desperate inability to pin down the factors that make children read, we have been preoccupied now for 50 years with studies of the reading interests of children. Investigations of reading interests appear to be based upon the assumption that if we can discover what children will say they are interested in and if we can provide books on the subjects children identify as interesting, then automatically children will read more. Yet no one has bothered to verify this assumption.

Studying the stated reading interests of children is certainly a worthwhile pastime for adults. It can help adults bridge the gap between childhood and adulthood; it can serve as a reminder to adults that we must be vigilant in our attempts to communicate with children. In most cases these interest surveys are a humbling experience worthwhile for adults. We are not as good predictors as we would like to think we are. But beyond the benefits of an experience of humility, an attempt at communication, and a reminder of the differences between children and adults, there is no demonstrated utility in the interest surveys.

Certainly it is valuable for adults to have some idea about the interests of children. But the relevance of what children say they are interested in to what they do read has been vastly overrated. In pioneering studies, both Waples[8] and Carnovsky[9] found there is little correlation between stated reading interests and actual reading done.

These studies began in the early 30's when Carnovsky measured the reading interests of adults, then checked their actual reading with what they said they were interested in reading. They correlated negatively. The investigator re-analyzed the study in amazement. Carnovsky was forced to conclude that books representing topics of high interest were widely read by adults when such books were widely advertised, accessible, readable, and written by reputable authors. He also concluded that books representing topics of low interest were also widely read when the same factors were present. These studies were repeated again and again with adults, children, and youth with the same results: Factors other than stated reading interests are the factors determining which books are read.

What are these factors? At the expense of some oversimplification, let's call these factors accessibility and recommendation. Link and Hopf[10], in perhaps the most extensive study of what makes people read, found the two reasons given to account for over half the books read by the large population in their study: Convenience 20%, recommendation by friend, family, school, and others 31%. Strang lists accessibility, which she refers to it as availability, as the most important of the enviromental factors influencing reading. In the Woolcock study peer suggestion was the most frequent reason given for reading a book. In the Burger, Cohen, and Bisgaier study, expanded classroom libraries, recommendations by students and teachers, and the enlistment of parent cooperation succeeded in raising the number of books read per pupil per month from 1.25 to 4.5.

Strangely enough, there have been very few studies of the effects of recreational reading on the development or maintenance of reading skills. Perhaps the assumption that if children read, they will learn to read better is so widely held that no one has thought to test that assumption under experimental conditions. In the few studies that have been conducted, significant results have not been obtained.

Indirect evidence of the utility of recreational reading in the development of reading skills is available from two sources: from the studies of individualized reading instruction and from the studies of the effectiveness of school libraries.

Several studies have indicated that students have achieved normal and in some instances above average development of reading skills under individualized reading instruction in which self-chosen reading is part of the technique of learning. However, these studies have not yet isolated the gains in measurable reading skills attributable to individual reading, to class exercises, and other methods of skill acquisition. Although we may suspect that a great amount of skill development is due to the factor of practice in self-chosen books, we have at this time no way of estimating how much skill development is attributable to that element of individualized reading instruction which resembles very closely recreational reading.

Similarly, research in the effectiveness of school libraries presents us with tantalizing, but non-direct evidence of the value of recreational reading. Gaver, in a survey of research concerning elementary school libraries[11], concludes that the cumulative evidence indicates children who have had continuing access to good school library collections administered by qualified library personnel generally read two to three times as many items in a greater variety of literary forms and interest areas, read more magazines, and may score higher on the achievement tests. Gaver cautions that these findings must be qualified by the difficulty of isolating interrelated factors.

Direct evidence on the effect of recreational reading on the development of reading skills is scarce and inconclusive. However, indirect evidence is mounting to justify the hypothesis that increased recreational reading has a positive effect on the development and maintenance of reading skills.

After looking at the results of previous investigations in recreational reading, staff members of the Reading and Language Arts Center at Syracuse University designed a study which has been conducted this year. Our population consisted of 194 fifth grade children in suburban schools. The three schools in the study all have centralized school libraries, staffed by qualified, experienced children's librarians. The teachers of the 7 classrooms involved are likewise well trained and seem equally interested in the recreational reading of their students. The children come from a range of very low to very high middle class homes, probably with approximately equal numbers of the lower and higher income extremes.

For three weeks we trained the children and their teachers in a method of keeping a record of all books read outside of class. During that period, we emphasized honesty in reporting and worked with teachers to withdraw any indirect pressure from adults in the school to reward in any conscious way students who reported many books than those who reported none or only a few read. Students were trained to record the author, title, number of pages read, the source from which the book was obtained, who if anyone recommended the book to them, and their rating of the book on an interest-aversion scale from 1 to 5.

During the pre-experimental period we found that the mean number of books read was 1.1 per week. We suspect this figure was inflated by the novelty of recording, and by the cumulative effect of previous adult expectancy.

Using a table of random numbers, three of the classrooms were assigned to Treatment A. In Treatment A we attempted to simulate normalcy of a fifth grade reading program. The class proceeded on its regular program of reading instruction, weekly visits to the school library, periodic book reports, and other activities considered normal for a fifth grade reading program. The only difference was that periodically the teacher reminded children to record whatever reading they had done outside of class on the weekly report of recreational reading. Teachers did not examine the reports or try to influence the amount or type of reading done except for that indirect influence which all fifth grade teachers have as a normal part of the teaching of reading to any fifth grade class.

During the following 15 weeks, the range of reading was from 0 to 35. The mean number of books read was 8 for 15 weeks. We were pleased with this figure, for it compares favorably with those from previous investigations.

Two of the classrooms involved were chosen by random selection for Treatment B. In these classrooms, a new bookcase was placed in the room and during the next 10 weeks, more than 200 paperback books were provided. A check-out system was instituted so that the children would have free access to the books. The books were chosen from titles commonly accepted as having some chance of success in appealing to children in the fifth grade. They ranged in reading level from the second grade through some that were on the adult level. The books appeared in the room on a regular basis but without introduction by teacher or librarian. In this treatment we attempted to simulate a condition becoming more common in many schools: books accessible in larger numbers.

The number of books read in Treatment B ranged from 0 to 33. The mean number of books read was 11.7, or nearly half again as many as in Treatment A. Although the statistical tests have not yet been run on the data of the study, a cursory glance suggests the effect of accessibility. Regardless of the school library, the variability of the number of books in the home, the individual habits in relationship to public librares, the amount of books read by the children who had additional books in the classroom was quite a bit higher.

In the third treatment, Treatment C, we added a deliberate element of recommendation to the element of accessibility. The same books were added to the classroom as were added in Treatment B. However, instead of just placing the books in a bookcase, the books were introduced by the teacher who previously had read or scanned the books for knowledge of their contents. To take advantage of the variable of peer recommendation, time in the language arts instruction block was devoted to speaking, and writing, activities centering in books read by children.

The range of books read by children in Treatment C was 3 to 91. During the 15 week period the mean number of books read was 22.2, indicating the combined factors of accessibility and recommendation are powerful factors in influencing the amount of reading done by these children.

The data will be examined for additional information concerning the recreational reading of these 194 fifth grade children. Statistical tests have been designed to estimate the significance in the factors of sex, reading achievement, and intelligence. It will be interesting to see whether these factors have a measurable effect on the number of books children read during the study. There will also be an analysis made to determine if the amount of recreational reading will have a measurable effect on gain in test scores of vocabulary development and reading comprehension.

In the absence of final results from the statistical data, perhaps some personal comments are in order. To those who have been involved, the study seemed to indicate several conclusions. First, teachers were often surprised by the books that appealed to the classes and to individual students. Again and again the adults did not anticipate reaction of students to certain books, and the appeal of certain types of books to groups of students. Second, every teacher in the study felt the value of becoming acquainted with more of the books which students were reading. That certain magic between adult and student which can happen only when the adult has really read the book children read happened over and over during the study. From here, of course, it is an easy step for the professor of children's literature to recommend more and more effective courses in children's literature to teachers. Another comment might be added: the investigators felt that additional classroom libraries in no way replaced or conflicted with the elementary school library. On the contrary, those involved in the experience underscored the need for both the centralized elementary school collection and a classroom library, and saw new opportunities for classroom teachers and school libraries to work together in stimulating each child's growing pattern and habit of recreational reading.

Bibliographical References

1. Florence Cleary, **"Why Children Read," Wilson Library Bulletin** 14: 119-126, (October, 1939).
2. Mary Wollner, **Children's Voluntary Reading as an Expression on Individuality,** New York: Bureau of Publications, Teacher's College, Columbia University. Contributions to Education, No. 944, 1949.
3. Lou LaBrant and Frieda Heller, **An Evaluation of Free Reading in Grades Seven to Twelve,** Columbus: The Ohio State University, 1939.
4. Marietta Monahan. **"Comparison of Student Reading in the Elementary School With and Without Central Libraries."** Unpublished Master's Thesis, Graduate Library School, University of Chicago, 1956.
5. Cyril Woolcock, **"Guided Reading of Superior Students," Reading Teacher** 16: 448-451, (May, 1963).
6. I. Victor Burger, Theresa A. Cohen, and Paul Bisgaier, **Bringing Children and Books Together,** New York: Library Club of America, 1956.
7. Ruth Strang, **Explorations in Reading Patterns,** Chicago: University of Chicago Press, 1942.
8. Douglas Waples, **"Relation of Subject Interests to Actual Reading," Library Quarterly,** 2:42-70, (January, 1932).
9. Leon Carnovsky, **"A Study of the Relationship Between Reading Interest and Actual Reading." The Library Quarterly** 4:76-110, (January, 1934).
10. Henry C. Link and Harry Hopf, **People and Books: A Study of Reading and Book Buying Habits,** New York: Book Industry Committee, Book Manufacturer's Institute, 1946.
11. Mary Gaver, **"Research on Elementary School Libraries," American Library School Library Bulletin,** 56:117-126, (February, 1962).

INTERACTION OF PSYCHOLOGICAL AND NEUROLOGICAL FACTORS IN DIAGNOSIS OF LEARNING DISORDERS

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In the past ten years there has been increasing concern with a large number of children within our population who evidence deviations of intellect and behavior of such a nature as to require special resources for their management and education. The many different disciplines involved with learning and learning disorders have begun to study extensively those factors which enter both into the etiology and sustenance of learning problems. Few subject areas have occasioned such wide multidisciplinary concurrence and collaboration while simultaneously provoking professional disjunction and discord.

A number of years ago, the so-called personality specialists held the upper hand. Those of us in the learning field were besieged by opinion and "research" which indicated, without the shadow of a doubt, the tremendous importance of psychogenic factors in determining how well a child would learn and the significance of these factors in the etiology of learning disability. There was absolutely nothing in the way of personality dynamics which could not in some way be associated with the child's failure to learn. Thus, such concepts as difficulty in handling aggressive drives, fear of looking, appeasement of guilt, faulty identification mechanisms, and so on, held sway. It is no wonder that the average classroom teacher became extremely confused as she was confronted with all these problems. All too frequently she would simply give up and rationalize perhaps her own failures and incompetence behind the screen of the child's "emotional conflicts."

In the last five or six years, the pendulum began to shift. Suddenly, there was an apparent increase in the number of children compromised by neurological dysfunctions. At the same time, there was a growing dissatisfaction on the part of many medical people with purely psychogenic and interpersonal explanations for learning disabilities. Almost before we knew it, we were enveloped by such terms as minimal cerebral dysfunction, minimal brain damage, dyslexia, maturational lag, developmental discrepancy, and the like. The result was almost inevitable. Again, those people directly involved with learning disabilities had found a ready-made waste paper basket into which those youngsters who were experiencing severe learning disorders could readily be discarded. The kind of tunnel-vision which came into play could at best be considered deplorable. If it were not for the tragic component, it would almost be amusing how many "brain damaged" children immediately found their way to the offices of our learning specialists and psychologists.

It is the purpose of this paper to present a point of view that attempts a rapprochement of these ostensibly polar points of view. It is our premise that any youngster experiencing a learning problem is basically a physical organism functioning in a social environment in a psychological manner. In every child there is always a unique interaction of both functional and organic factors. Any individual concerned with the diagnosis of learning disorder must therefore always be alerted to the multiplicity of factors which may affect a child in a learning situation. There is no single cause for learning difficulty.

Diagnosis of Learning Disorder

The major purposes of the diagnostic evaluation are to determine the existence and severity of the learning disorder, the classification of the learning disorder, specific strengths and weaknesses evidenced, and the therapeutic steps indicated to ameliorate the condition. The basic orientation of the Institute for Learning of the Hahnemann Medical College and Hospital in evaluating learning disorders is steeped in the roots of ego psychology. The basic functions of the developing personality are referred to as the functions of the developing ego. The ego, in a sense, is a hypothetical construct allowing us to deal with the interaction of functional and organic factors in a dynamic manner. The ego is really synonymous with the "whole child." and all of the ego's functions play a crucial role in the individual's adaptations to the learning situation. When we talk about the ego, we are talking about both the neurological and psychological child, each aspect being inextricably interwoven with one another. Thus the ego's functions include perception, memory, concept formation, motility, thinking, cognition, integration, association, language formation, postponement of gratification, reality testing, and synthesis. These are not just neurological or psychological concepts: they are both influenced by and influencing one another. Anything which interferes with the development of the ego and any of its functions will undoubtedly influence the child's ability to learn.

Disturbances in the Organic Substratum of the Ego—the Central Nervous System

To illustrate the role of organic disturbance in learning, one need only consider that here a defect exists in the very matrix of the crucial organ of learning, the brain, and its sensory and motor systems. Since the foundation of the ego is the central nervous system, this means inevitably that there are two strikes against this person developing normal ego functions. In other words, the defect to the central nervous system makes it extremely difficult for the child to develop, though growth and experience, the primary apparatuses of the ego, namely such basic skills as perception, concept formation, motility, and language. These deficiencies, in turn, interfere with the child's ability to interact with his enviroment in an adaptive manner, and, for that matter, for the enviroment to perceive him in the normal fashion. Thus, as he grows older, and there is subsequent disruption to later ego function, he develops a sense of impotence and of being someone who "cannot" rather than someone who "can." In a very real sense, this child is defeated before he ever starts school. He feels so defective and inadequate that even the slightest challenge appears quite overwhelming to him. Furthermore, the mother of the child recognizes that he is not perfect and therefore "he must be bad." This recognition poses a threat to the narcissistic components of her ego, and a defense must be found by her to ward off the anxiety aroused by this threat. What is brought forth is: "What did I do to deserve this or why did this happen to me?" Her disappointment and frustration may lead to anger and arouse primitive aggressive-destructive impulses. These impulses are directed against the defective product (the child) and arouse the mother's conscience and her own guilt. Also, from the moment of conception, the child tends to frustrate many elemental needs, evoking at least occasional resentment on the part of the parents. The mother, therefore, inevitably must respond differently to the child than she would to a normal offspring, who would be a wished-for extension of herself. If, as part of the total syndrome, motility is inadequate the child is further robbed of the gratification of mastering new functions, which then interferes even more with the development of a sense of self-esteem.

Clinical Behavior

In the evaluation of children with brain injury, one might first consider clinical behavior. Consideration of the common characteristics of a brain injured child leads to the conclusion that there are distinct handicaps in the learning process, which, of course, represent disorders in ego functions. The child's learning problems will be manifested in three general areas. The first deals with inadequate impulse control, the second with his inability to integrate learnings that come through the various sensory pathways, and the third, with his feelings about himself.

In the area of inadequate impulse control, we refer to such characteristics as hyperdistractibility, hyperactivity, and disinhibition. These children lack development of the controlling mechanisms inhibiting their impulses, with insufficient checking of their thoughts and actions, and a tendency to react emotionally and inappropriately. For example, one child may have difficulty staying in his chair not because he wants to get up and be destructive, but because it really is almost impossible for him to keep himself in one place. Another child may constantly shuffle his feet because he has difficulty realizing where he is in relation to the rest of the room around him. Another child who may be described as having difficulty paying attention may really experience the problem of having difficulty in not paying attention to every stimulus that comes along. He is really not inattentive; he is overly attentive to far too many stimuli.

In the area of inadequate integrative functions, the difficulties may show up primarily in perception and concept formation which imply the use of symbolic processes. This kind of youngster may have the capacity to take in stimuli, but experiences much difficulty in fitting them into things he already knows appropriately. He may have trouble pulling out of his store of knowledge things that are pertinent and related to something that is introduced into a class discussion. These children are often awkward and poor judges of size and shape and distance and direction. Their visual perceptual difficulties also combine with those of laterality and directionality to produce such scholastic handicaps as reversals. They may also experience difficulty in categorizing because they have trouble differentiating between essential and non-essential details.

As pointed out above, the brain injured child also manifests a very defective self-concept and narcissistic hypersensitivity. Here we refer to the youngster who is often irritable, sensitive, and given to catastrophic reactions of rage, despair and hyperemotionalism. We refer to the child who bursts into tears at the first feeling he gets he is not going to succeed. This type of youngster often attempts to compensate for his severe feelings of defectiveness by a retreat into a kind of omnipotence. Because of an inadequate sense of mastery, inadequate perception of self, and inability to instrument his wishes in realistic accomplishments, this child frequently seeks the substitute gratification of controlling others. It is as if the child feels that once he lets the teacher gain control, then the teacher is going to hand him something that will certainly make him fail. This he cannot allow to happen. What often results is a kind of power struggle both in school and at home.

History and Psychological Evaluation

In the history of these youngsters, the pre-, peri-, and post-natal record must be examined carefully. Low birth weight has been found to be correlated with insult to the central nervous system. A precipitate delivery, an unusually long labor without oxygen, a dry birth, any of these may have made a contribution to the basic organic endowment with which the child starts his life and enters upon the business of developing an ego with all its functions and using it to deal with life and to learn. Other indications of inadequate impulse control or regulation would be insufficient or even absent sucking reflex at birth, early vomiting, particularly projectile vomiting, and early indications of hyperactivity, hyperirritability, and destructiveness.

Psychological evaluation begins with the assessment of the child's functioning intelligence as well as his potential capacity with particular focus on quantitative and qualitative indicators of specific assets and liabilities. In many cases the child's verbal intelligence will be significantly superior to his non-verbal intelligence. This is related to the brain injured child's difficulty whenever he must actively involve himself in a situation and attempt to manipulate a problem to a successful solution. It is for the very same reason that these children will show relatively high scores on tests of information and vocabulary development since these skills do not require much by way of active mental manipulation.

Characteristic perceptual problems appear on several of the subtests. On a test measuring concept formation the brain damaged child is most likely to demonstrate concrete or functional thinking. The child's defective self-concept and his narcissistic hypersensitivity in a testing situation may again be reflected in low frustration tolerance and a tendency to "blow up." His avoidance techniques include impatience to finish or to get on to the next task, or to postpone the challenges to his tender narcissism by engaging the examiner in irrelevant conversation. His verbalized sense of inadequacy frequently takes the form of "I can't" or "I don't know how." Other perceptual and conceptual difficulties may be shown on the Bender-Gestalt test with the tendency of the brain damaged child to exhibit perceptual-motor difficulties such as distorted angulation. rotation of the whole, difficulties in joining its components, and erratic ordering and grouping of the designs.

Oral language ability is assessed through such instruments as the Detroit Test of Learning Aptitude and the Illinois Test of Psycholinguistic Abilities. The child's ability to engage in associative learning may be evaluated by his performance on the Gates Associative Learning Tests.

Informal Reading Inventories are utilized to assess the child's ability to handle written language. It is of interest that many brain injured children usually do not experience difficulty in the recognition of words per se but rather have trouble in reading comprehension—again a representation of conceptual as well as manipulative problems.

On projective tests, these children's conceptual and perceptual problems become clear in a number of ways. They will perseverate on their Rorschach responses, be unable to cope with the ambiguous stimuli of most of the cards, but respond to the more highly structured cards. Feelings of defectiveness are pervasive in their response to the so-called content projective tests.

Conclusion

We have started out with the basic hypothesis that every learning disorder represents a unique interaction of psychological and neurological factors. In this paper, I have stressed only one type of learning disability—one where there is a basic defect in the neurological substratum of the ego, the central nervous system. It must be emphasized, nevertheless, that the characteristics delineated above must, at all times, be related to the deficiencies in normal ego development. It has never been proven that hyperactivity or distractibility are related to defective neural transmission or specific brain cell malfunction. All of the symptoms mentioned above represent rather the ego's method of defending the rest of the personality from awareness of its defects. Thus, the role of the teacher, particularly the first grade teacher becomes of great significance in determining the degree to which the child will be crippled by the interference to the development of the ego functions. I have become convinced over the years that many children begin school with so-called cerebral dysfunction, but never evidence the usual symptoms associated with this diagnostic category simply because of the kind of interpersonal relationship established between the teacher and child. This can go a long way toward fostering ego development and compensating for some of the traumatic influences occurring earlier.

AN AUTOMATED INDIVIDUALIZED DIAGNOSIS FOR COLLEGE CENTERS

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Many investigators have reported on the automation of various educational activities. Cogswell,[1] and Loughary, Friesen, and Hurst,[2] have described a computer program which conducts an educational planning interview with high school students. Forster,[3] developed an individualized programmed instruction package which was effective in teaching students how to interpret their Minnesota Scholastic Aptitude test scores. The field of teaching machines, and particularly computer assisted instruction is, of course, the pre-eminent example of the use of automation in the educational process. In this paper I want to describe a system for the self-diagnosis of reading and study skills problems. The system has a specific objective: to teach a student to analyze his measurable reading skills, and make decisions about his treatment. As are the other examples cited, it is an attempt to automate a significant aspect of the educational process.

Context of the System

The self diagnostic system is designed for and has been used experimentally in the reading and study skills center at the University of Minnesota. In the normal, non-automated situation, each student applicant for service at the center completes a battery consisting of the Diagnostic Reading Test, Survey Section; the OM Form of the Co-operative Spelling Test and a short locally developed Individual Record Form. Then at some mutually agreed upon future time, the student and a counselor sit down and discuss the results of the battery. They select an individualized program of remedial and developmental work tailored to the needs of that student. The selected exercises are all self-instructional and student paced. The student works on these materials under the supervision of a counselor. The individualized nature of the program allows great flexibility of scheduling. No two students would necessarily be working on the same material in the same sequence. Students may enter the program any time during the school year, work in the practice room as their schedules permit, and stay with the program as long as they wish. The Automated Individualized Diagnosis System (A.I.D.) is designed to take the place of the human counselor in the intake process. It has been used, with some trepidation, during periods of high intake such as the beginning of the fall quarter. The system could be modified for use at other institutions, as a routine procedure, or as a training experience.

Elements of AID

1. The Test Answer Sheet

AID uses a basic Digitec answer sheet, scored for the usual sub scores of the Diagnostic Reading Test. In addition, we score separately the 20 item paragraph comprehension test. Raw scores are presented on the test answer sheet along with percentiles based on a sample of 392 Minnesota Arts College freshmen tested in the fall of 1967.

2. The Self Analysis Work Sheet

At the self-diagnostic session each student receives a Self-Analysis Profile Blank. The profile grid is set up to magnify differences at the extremes of the distribution of percentiles. This, of course, is the part of the range in which the norms are most influenced by chance. However, this is also the area of major concern for treatment. For example, scores falling between the 40th and the 60th percentile on rate are probably of less treatment concern than those between the 10th and the 25th percentile. Thus we trade significance in treatment for reliability of measurement.

3. Audio Tape

An audio tape directs the student through the process of profiling his reading ability. Then the tape gives decision making rules that are to be used when selecting the practice exercise. The rules are either the result of 1. empirical investigation, or 2. clinical experience or 3. practical limitations of the system. The rules are as follows:

a. Select rate if the scores for retention and paragraph comprehension are at the 40th percentile or higher and there are no more than six errors on the vocabulary test.
b. When selecting between retention and paragraph comprehension, select the area with the lowest percentile.
c. If both retention and paragraph comprehension are at the same level, select retention for work first.
d. If multiple choice examinations are a problem, select paragraph comprehension.
e. Before working on vocabulary see a counselor to decide in which particular area of vocabulary to work.
f. If reading percentiles are satisfactory, select spelling, study skills or written composition.
g. In all other cases, stop the tape and make an appointment to see a counselor.

The last section of the tape asks the student to indicate, on the Self-Analysis Worksheet, the areas of reading and study skills in which he wishes to begin work.

4. Treatment Materials

The fourth component of the system, which will not be discussed at length in this paper, is a set of practice materials. It is necessary to have a specific treatment regime worked out for each option the student can make. This regime should be empirically validated. That is, there should be some evidence that given problem x, as evaluated by pre-test x, if a student follows treatment x he will produce higher scores on the post-tests than if he took some other treatment y. Using the particular version of the system now operating, a student may analyse his profile and decide to work on rate. In that case he would automatically start a series of procedures which seem to be maximally effective in our setting.

Evaluation of AID

1. Does the method of intake affect students' tendency, to remain in the Reading and Study Skills Center?

In the fall of 1966, 45 students used the first version of the system to do their own diagnosing and intake into the Reading and Study Skills Center. The quarterly report for fall showed that the types of intake—group, taped, or counselor interview—had no effect on the number of practice sessions in the center. The 45 students who used AID had an average of seven practice sessions. The 111 who went through the normal face-to-face personal counseling procedures spent an average of 6.8 sessions. The differences are related to the experience of the counselor in the practice group, not to the method of intake and diagnosis.

2. Do students follow the decision rules?

In the spring of 1967, 26 students in the How to Study Course made a self-diagnosis using the second version of the system. Students listened to the tape through the sections where it described the test and showed them how to profile their study skills. Then the tape was stopped and the students were told to select practice areas on the basis of their profile. They were given no explicit rules for making this decision. This procedure was in a sense a test of the use to which untrained students would put knowledge of their own reading ability.

After they had made the initial decision, they heard the rest of the tape which gave them explicit decision making rules, and then made their final decision.

Fourteen of the students, or 55 percent, changed their choice of material after listening to the rules. Thus it seems reasonable that the tape can both give information on profiling and give explicit information which students follow in making use of their profile.

3. Do students learn about their reading ability from the system?

The latest version of AID was used in the fall of 1968 by students in another section of the How to Study course. They were asked before listening to the tape to estimate their rate, retention and paragraph comprehension percentile in comparison with the typical Arts College freshmen. Then they heard the tapes. Without warning at the end of the class, some 35 minutes after listening to the tapes, they were asked to recall their ability percentiles. The results are presented in Table I.

TABLE I

Amount of Deviation From True Percentile for Three Reading Skills in Pre-Treatment Estimation and Post-Treatment Recall.

Amount of Deviation		RATE		RETENTION		PARAGRAPH COMP	
		PRE	POST	PRE	POST	PRE	POST
(Under Estimate)	-60						
	-50			2			
	-40						
	-30			2		1	
	-20	22		3	1		
	-10		2		1	2	
		3	1	2	1	1	2
	0	1	13		9	1	8
(Over Estimate)	+10	2		3		1	2
	+20	3		2	4	5	3
	+30	2		2	1	3	
	+40	3	1	1			
	+50						
	+60					3	1
$\bar{X}$		14.0	.23	-11.8	4.24	16	5.70
σ		22.3	9.5	25.4	16.1	25.3	15.9

Deviation from actual score can be positive representing an over estimation or negative indicating under estimation of ability. In general, pre-treatment deviations are large. Post-test deviation tends to peak at zero. There were a few students who made rather marked individual deviations. These were in some cases confusion between percentiles and raw scores. In general, however, it seems fair to conclude that the students did learn from the tape as measured by pre and post scores.

It is, of course, possible that the pre-test sensitized them to pay particular attention to their self-analysis work sheet. Therefore, in another section of the course students were not given a pre-test. They merely listened to the self-analysis tape, made their own diagnosis and then were asked in an unannounced test to recall their percentiles. The results are presented in Table II.

(Table II on Page 40)

This group recalled their scores with even better accuracy than did the first group reported in Table I. Whether they would have retained their scores better if they had received the information face-to-face from a counselor is beside the point. The issue here is whether the tape works to teach the students valid information about themselves. Clearly, the answer is yes.

4. Are the students satisfied with the self analysis system?

Thirty-five students in the How to Study course were administered a questionnaire after profiling their scores. The first item, and the number selecting each response were as follows:

> You have received the results of your reading test and were guided to select practice materials by a tape recorder. It would have been possible for your instructor to sit down with you and help you make the same selection. You could have told him something about yourself that would have changed the final choice. But you would have to have waited some time to see him.
>
> Under the circumstances, how do you feel about the self-analysis?

5	20	5	5	0
completely satisfied	generally satisfied	indifferent	generally unsatisfied	quite unsatisfied

TABLE II

Amount of Deviation From True Percentile for Three Reading Skills in Recall Without Pre-Treatment Estimation.

Amount of Deviation		RATE	RETENTION	PARAGRAPH COMP
(Under Estimate)	-60			
	-50			
	-40			
	-30			
	-20			1
	-10		1	2
		1		2
	0	12	9	5
(Over Estimate)	+10		3	1
	+20			
	+30			1
	+40			1
	+50			
	+60			
	$\bar{X}$	.30	.46	.08
	σ	1.1	3.9	16.1

Clearly then the students were reasonably satisfied with the self-analysis under the circumstances.

5. If students had an option between an instructor and a tape, which would they choose?

Another question of the survey was as follows:

If there were no waiting period for either the tape or the instructor, which would you prefer?

0	2	3	20	10
Strongly prefer the tape	prefer the tape	indifferent	prefer the instructor	strongly prefer instructor

Here again we see a rather definite trend. Given a choice, students would prefer to talk to a live instructor. However, a review of the Self-Analysis Worksheet indicates that only 9 out of 35, or 25 percent of the students in the latest group, and 7 of 26 or 29 percent of the students in the spring 1967 sample actually asked to see a counselor. Thus it appears that in spite of the fact that according to an attitude measure 60 percent of students would like to see a counselor, by a behavioral measure only about 25 percent of them take the opportunity. Looking at the data from another point of view, 70 to 75 percent are satisfied enough with the intake system to begin immediately the work that they have selected for themselves.

Summary

As it stands now, the AID system is certainly not perfect. But there are some positive things we can say about it. It does not seem to adversely affect length of contact with the reading program. Students learn from the system both what their ability scores are, and how to use the scores for diagnosis. Students seem reasonably satisfied with the system although when given the option they would prefer to talk to a human being. Subjectively, I would say that AID was about as competent as a well trained but nervous graduate student conducting his first few intake interviews. At least the AID sounded like it knew what it was doing. Those findings are consistent with reports in the literature of automated instruction. Forster, for example, notes that "subjects who receive test results from counselors appear to become more relaxed more quickly than subjects who receive test information from the program manual." However, he notes that the subjects getting their information from the program tended to improve more in the accuracy of their self-estimation. Loughary reports on students attitudes toward the computer program developed by Cogswell. In general the students seem to feel that the program had more factual, specific information than the human counterpart, were more positive toward the human counselor than the machine, and would like to see the computer used regularly if there were a human counselor somewhere around for security. The results for the AID system are in line. To recapitulate, the system seems to teach factual information quite well, seems to work in achieving its major objective which is to get students in contact with material. Like other automated instructional systems it fails in the emotive area. It may be functional, but it is not warm and friendly.

Perhaps those of us concerned with the automation of education and counseling should take some consolation from the psycho-biological hypothesis that a woman is nothing more than a rag, a bone and a hank of hair. Harry Harlow[4] attempted to build a surrogate mother monkey out of a nipple, a wire frame and a hank of terry cloth. From the point of view of simian social learning and monkey mental health, the effects were disastrous[5]. However, Harlow had expected his creation to be all things to the baby monkey. It may be possible to design educational technology around an answer sheet, #2 pencil and a hank of magnetic tape. It will work quite well but we can not expect it to be a mother.

Bibliographical References

1. J. F. Cogswell, C. P. Donahoe, D. P. Estavan, B. A. Rosenquist, "The Design of a Man-Machine Counseling System." Professional Paper SP-2576/001/01, Systems Development Corp., 2500 Colorado Avenue, Santa Monica, California, 1966.
2. John Loughary, Delos Friesen, & Robert Hurst, "Autocoun: A Computer-Based Automated Counseling Simulator System," **Personnel And Guidance Journal**, 45:1, (September 1696) p. 6.
3. Jerald Forster, "An Investigation of the Effects of Two Feedback Methods When Communicating Psychological Information," Unpublished doctoral dissertation, University of Minnesota, 1966.
4. Harry F. Harlow, "The Nature of Love," **The American Psychologist**, 13:12, (December 1958) pp. 673-685.
5. Harry F. Harlow, "The Heterosexual Affectional System in Monkeys," **The American Psychologist**, 17:1, (January 1962) pp. 1-9.

READING IN THE CONTENT AREAS: INSTRUCTION AND APPLICATION

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That reading should be taught in the content fields, no one will deny. Most educators would agree that it is a fundamental part of a total school program. The professional literature includes limited information about the need for reading instruction in the content fields as well as some mention of teaching procedures and techniques. The topic, reading in the content areas, is respectable. It is not controversial. Nor does it seem to be dramatic and capture the teacher's fancy and interest. We do not do much about teaching reading in the content fields.

The reasons for this lack of implementation of reading skills in content areas or at least, lack of concern for implementation, may be due in part to too little controversy. Perhaps the idea is blessed with too much tacit approval. Therefore we agree that we should teach reading in the content fields. "So, what else needs to be done? Let's go to more pressing matters." Another reason may be that there is still no training for subject specialists in the teaching of reading. Secondary school teachers are still trained to a subject matter specialty. Little in the area of methods of teaching is investigated. And even if there were methods courses, little emphasis would likely be given to reading, because the instructor might not be trained in reading. Once the teacher is in his school, the reading consultant or supervisor may not be of great help for two reasons. One, the reading consultant may be oriented toward and assigned remedial teaching. This may be considered to be the most pressing problem in reading in the school. Secondly, the consultant may be a subject-matter specialist in English or social studies, but not in the sciences or mathematics. Consequently, the reading consultant may feel totally inadequate to help teachers in those areas. But, we obviously need to reconsider and plan specific programs to implement the reading skills in the subject-matter courses.

Of the various explosions mentioned as currently taking place, one is the knowledge explosion. Dire predictions are made when we consider the effect on the poor classroom teacher. The scope of knowledge is growing because of the increased levels of education for the people. Also, the almost magic means to communication make knowledge available to a degree unknown in any other age. Looking at the burgeoning of knowledge, we can come to only one valid conclusion, it would seem, about teaching in each of the subject-matter areas. We will not be able, as teachers, to cover any field in such great depth that we will exhaust the field. We will have time only to teach the fundamental understanding of a subject-matter field. What this situation means for reading is that we must teach the student how to apply the reading skills needed to gain knowledge on his own. Increasingly, we read and hear statements that people will go to school continuously during their lifetime merely to keep up with the great bodies of knowledge. Much of this "keeping-up" will not be done with a teacher but independently by the student. Not only does he need to know the subject-matter, but also, of equal importance, he needs to know how to obtain the subject-matter independently.

Perhaps the avenue which all subject-matter teachers should take is to lead into the reading skills through language. The student's proficiency in his ability to use his language—to speak it, listen to it, read it, and write it—will determine how well he is able to obtain knowledge in the content fields. We need to realize that there would not be any communication of subject-matter ideas without the medium of language. We need to realize also that often the difficulty a student has with a subject is with the language used to explain the subject-matter. Therefore, teachers will need to focus on language and how the student can use it most effectively and efficiently.

Teaching reading in each content subject is not a mystery with peculiar practices and rituals denoting it. Some teachers, after their investigation of this aspect of reading, have said that the basic ideas of teaching reading in the content fields is only good teaching. And, indeed, this is true. As in any effective teaching, there are three conditions teachers need to meet. First, teachers need a philosophical base to serve as the foundation of the practices used in the classroom. Second, teachers need to identify the reading skills, both general and specific to their own subject. And, third, teachers need to determine the procedures and techniques needed to teach these skills.

Philosophical Base

There are five basic premises which set forth basic guidelines for reading in the content area.

The first premise states that reading in the content fields is part of the total school reading program. This premise implies that each content area has its own peculiar application of each skill. Also there is an implication for the way a skill is learned. A student needs to have specific instruction in each skill and then he needs to practice the skill.

Instruction and practices are requirements in partnership for student competency in any reading skill.

The second premise states that all teachers are responsible for teaching their students the techniques needed to read their specific subjects. All teachers are involved because basic common sense would tell us to teach the skill and show how to apply it where the skill will be used. Levine has noted that the English teacher or reading teacher cannot teach the reading skills required for vocational subjects. English teachers cannot be expected to have the necessary knowledge of the technical vocabulary, idioms, or concepts, or offer practical application. Little transfer of learning of the reading skills learned in a literary context to a technological factual context is found.[1]

The third premise states that the focus of teaching is changed from teaching content to teaching the student how to read and understand the content. The teacher teaches more than mere understandings and, hopefully, attitudes, important as these are. The emphasis is rather on the techniques and skills of getting the understanding from the printed material. Then, what teachers have noted is that as the students learn and apply the pertinent skills, the content understandings are learned as well. Skills cannot be taught in isolation from content.

The fourth premise states that teaching reading in the content fields is fused with the teaching of content. This premise is closely related to the one before it. Its main emphasis is that reading cannot be isolated from content. Reading skill instruction and content teaching are fused into one.

The final premises points out the interrelationship of skills and teaching procedures in each of the content fields. Strang suggests the common use of skills by stating that thinking is an inherent part of the reading process. She states that each of the word recognition skills—context clues, structural analysis, phonic analysis and even the use of the dictionary—requires seeing relationships and making judgments as to the relevance of similar forms or meanings to the word in question. Locating sources of information on a given topic may require an amazing amount of thinking. Outlining, summarizing, and paragraph reading are experiences in thinking and logical reasoning.[2] There are a large number of skills common to each content subject. For instance, each content subject requires student competency in vocabularly. While some words in our language are common to all content fields, each subject has a vocabulary peculiar to it.

Skills

Upon investigation we find many of the reading-study skills, comprehension, critical reading and interpretive skills common to all content fields. That is, they are used by the competent reader as he reads any printed material. Nila Banton Smith states that skills common to all areas of subject-matter are word recognition, understanding meanings involving literal comprehension and making use of different rates of speed according to interest in reading and the nature of the subject matter. She also says that there are certain common study skills which are useful in all the subject fields. They are selection and evaluation, organization, recall, location of information, and following directions.[3] But then each type of subject-matter tends to require a different and peculiar use of the skills.

The social studies have special vocabulary needs. Many of its words are abstract. Words such as republic, democracy, and nationalism are impossible to see in a concrete form. Then there are words which have different meanings in the social studies area and in other fields. Such a word is **revolution.** General comprehension skills which are emphasized in the social studies area are seeing the sequences of events, noting relationship of cause and effect, time, place, and space. The author's point of view and recognition of propaganda are skills the student must be able to use if he goes beyond his textbook into current and popular writing. Obviously, reading of graphic material is highly useful in social studies.

The reading of scientific materials is usually performed more slowly in comparsion with the faster reading of a story or non-technical information. The slow reading is required because of detail and the precise analytical thinking needed. Certainly vocabulary, especially precision of meanings and technical words, is important. In comprehension the student is lost if he is unable to see the organization of information—the interrelationship of main ideas to details, sequence, classification, explanation of a process, detailed statement of facts, and so on. Steps of problem solving need to be discerned in the printed material. Inferences, cause and effect relationships, accurate generalization and the application of laws and principles are important reading—thinking skills in the scientific area. Understanding and manipulation of symbols are skills needed in science.

The reading material of mathematics is similar to science, except perhaps, there is a greater density of facts concisely stated. Formulas and equation, tables and graphs abound and each uses a symbolic language. Following directions and following the steps of an explanation and problem solving are basic comprehension skills. Vocabulary, again, plays an important role. In mathematics there is both a technical vocabulary as well as general words with a specific mathematical meaning.

Procedure

Procedures in the classroom should incorporate the reading skills. Certainly, there is a need to teach reading whenever the student is using printed materials. There are different procedures depending upon purpose and type of material, and variations on basic procedures. But, perhaps, there is one area of practice where special emphasis is needed: to provide and develop student readiness to read the content material. So many times the assignment in a content class is, "Read the next five pages and know what it says." Instead, there are four fundamental steps for preparing a pupil to read with understanding. One, investigate and expand the student's background of experience about the topic. Two, preview with the student the printed material to help him discover the scope and depth of subject-matter. Three, discuss the vocabulary that represents the basic concepts of the materials. And finally, help the student develop a purpose for reading—something to look for as he reads. These four points of procedures are not difficult or complicated; they do take time!

An oft repeated statement about reading in the content fields is that every teacher is a teacher of reading. Let's say further: teach reading wherever and whenever the skills are needed.

Bibliographical References

1. I. N. Levine, "Solving Reading Problems in Vocational Subjects," **High Points**, XLII, (April 1960), pp. 10-27.
2. Ruth Strang, "Secondary School Reading as Thinking," **Reading Teacher**, XIII, (February, 1960), pp. 191-200.
3. Nila Banton Smith, "Patterns of Writing in Different Subject Areas," Part I, **Journal of Reading**, VIII, (October, 1964), pp. 31-37.

A CRITICAL LOOK AT CRITICAL VARIABLES IN READING

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The ideas that I would like to present in this talk began to crystalize approximately a year ago when I was asked to serve as a consultant for workshops on Title I and Title III of the Elementary and Secondary Education Act. The focus of each of the workshops was to assist participants in the actual writing of their proposals—to help those who were designing new programs to develop clear statements of their objectives, procedures, and their plans for evaluation. As is so frequently the case in situations like this, I am sure that I learned considerably more than the people I was trying to help.

Often, it seemed to me, the people we were working with had not really determined in their own minds exactly what purpose their new program was supposed to accomplish. As I examined more and more proposals and asked myself the question, "What are they really trying to do?" I found that the objectives stated or implied seemed to fall into five different categories with each category suggesting something different for the educational researcher. I have tried to organize my remarks today around these five categories and in true bureaucratic style have used the initial letter of each category to spell the word "PREPS".

The first P in PREPS stands for "prevention." One of the fruits of our past research efforts is the ability to select, with a high degree of probability, groups of children who are not now seriously deficient, but in the ordinary course of events will become deficient. For example, Justman[1] studied 16 schools in disadvantaged areas of New York City and found significantly lower reading scores for mobile pupils, those who moved from one school to another, than he did for stable students, those who remained in the same school. From his data, Justman can predict that mobile children, as they are now treated in these 16 schools, will not achieve as well as children who remain in one school.

Suppose the professional staffs of these 16 schools used their experience, drew on consultant help, read relevant literature and finally came up with several alternative plans to be used with mobile youngsters? One plan might stress psychological aspects—ways of helping the new child to know his classmates quickly, procedures for reducing anxiety, and the like. A second plan might stress the use of refined diagnostic techniques aimed at providing the child the most appropriate materials and methods. A third approach might attempt to combine the first two that I have briefly described. We have in this process used a descriptive study which allows us to predict difficulty for a group of children which we have identified, and our basic experimental question is, "Which treatment is most effective in keeping predicted difficulties from occurring?"

While the "P" for "prevention" is highly desirable, the real world still demands the "R" in PREPS which stands for Remediation—the development of procedures to handle problems that already exist and have been diagnosed. Remedial reading studies have employed everything from drugs to play therapy as potentially critical variables in remedial reading research, and at various times both drugs and play therapy have been reported as having significant effects. The sad fact is, however, that almost every variable that has been found to be critical in one study has been found not to matter in another study.

From the language of variance come terms that are helpful in considering research on remediation, even though one might not want to use this method of statistical analysis. I refer to the specific identification of "main effects" and "interactions". If we found that experienced teachers had better results with all types of pupils and with all methods, we would say, "the main effect of teacher is significant." If, on the other hand, we found that experienced teachers were very effective with one method, but inexperienced teachers were more effective with the alternative method we would say, "there is a significant interaction between teacher and method." Such a result would suggest that different teachers ought to use different methods.

Most of the reading research that I have examined has chosen to center on what I have defined as a "main effect." The researcher has proposed a comparison of methods or has identified a type of student problem. Relatively few studies in reading are planned to examine the interactions that so often seem to exist in real life. We know, for example, that some teaching procedures may work better with girls than with boys and that some teachers may be more effective with bright children than with dull children. In any kind of remedial situation it may help us to think of critical variables combining in such a way that they have different effects on different people. Much of what I have said about research on remedial programs also applies to the "E" of PREPS which stands for "enrichment."

The second "P" of PREPS stands for "program." Words in Color, or individualized reading programs are examples of approaches that represent program changes, but not necessarily changes in educational objectives. Often research which attempts to compare a new program of reading selects a group labeled as an experimental group that receives the new program and their progress is compared with a group under the old program called a control group. In any applied study of reading it is probably incorrect to speak of an experimental and a control group since these terms suggests that one group is getting a carefully defined treatment and the other group is receiving no treatment. Obviously, in the applied situation both groups are being treated, and a more accurate description of the design is a comparison of the effects of alternative treatments. Review in your mind the studies you have seen which give elaborate detail concerning an experimental program and then state in words to this effect, "Students in the control group remained part of the regular classroom group."

If we consider the study as a comparison of treatments then it becomes clear that both treatments need to be carefully designed. It is entirely possible that apparently conflicting results in studies designed to compare programs were caused because a so-called control group was not a control at all. If a "regular classroom" in one study is very effective, then an experimental procedure may not show any superiority. On the other hand, a poor "regular classroom" might make the same experimental procedure look very effective. A related problem occurs when we apply broad labels to what we are doing such as "ability grouping," "phonetic approach," and the like, as if every practice so described were like every other practice with the label. We certainly know that ability grouping in one school may mean something quite different from ability grouping in another school, yet we still find studies that talk about the effects of ability grouping without providing any kind of operational definition. As Hayakawa says about cows, "Cow one is not cow two." In a similar sense, ability group one is not ability group two. This conclusion is supported by the research of Bond and Dykstra[2] who examined fifteen studies of the effectiveness of various reading methodologies. They conclude, "Future research might well center on teacher and learning situation characteristics rather than methods and materials. The tremendous range among classrooms within any method points out the importance of elements in the learning situation over and above the methods employed."

The final letter of PREPS, the "S" stands for service, and is meant to suggest to the researcher that much of our work is a step or more removed from our ultimate goal. We who are preparing professionals to work with clients are still basically concerned with the clients we may never see. If we prepare reading teachers, we are interested in the pupils of the teachers we prepare; if we prepare clinicians we are concerned about those who seek the services of the clinic. At the same time, our working model is one in which we try to change the professional so that he can change the client. There are some special problems in pinning down the critical variables in such a situation, especially when there seems to be a need for "instant upgrading."

We now have available some methods, or as I choose to call them, "treatments," whose effectiveness is highly dependent on the user, and we have other treatments whose effectiveness is about the same no matter who the user may be. Perhaps an analogy will help to make clear the distinction I am trying to draw. In our office building we have a self-service elevator—a rather sedate mechanism that proceeds at its own pace according to its own program without regard to who pushes the buttons. Whether our janitor or our dean is at the control has no relationship to the smoothness or speed of the operation. Elevators that are still under the control of humans, however, have the possibility of being more effective or less effective than our automatic elevator. depending in large part on the skill of the human operator. A live operator can miss floors so that you fall flat on your face when you exit or let you out on the 17th floor when you wanted the seventh. On the other hand, a live operator, if capable, can close the door as soon as everyone is safely inside, can correct for someone who pushes "up" when he wants "down" and can by-pass floors when the car is full.

To take our analogy back to the classroom, it seems to me that some of our new techniques such as Computer Assisted Instruction or TV are like automatic elevators—effectiveness is not dependent on who turns on the set or who activates the computer. However, as I read the description of Sylvia Ashton-Warner of what she calls "organic teaching" I have a strong feeling of something very good in the hands of the right person and sheer disaster in the hands of an incompetent.

One way to improve the performance of an incompetent elevator operator is to have him push the buttons in an automatic elevator. One way to improve the performance of an incompetent reading teacher is to have him turn on an appropriate TV set and get out of the line of vision. An easy and legitimate answer to increasing numbers of clients and decreasing numbers of skilled professionals is to devise materials and approaches which operate reasonably well regardless of who applies their use. At the same time, our focus in preparing new professionals for the field must be to prepare people to be more effective in meeting specified goals than any competing approach. From a standpoint of research we are likely to be wasting time in comparing a poorly trained person to a well developed technology. Rather we need to work on pinning down ways of preparing people to use human and technological resources in the most suitable combinations.

Helen Robinson[3] says, "Although more studies of reading than of any other school activity have been conducted, uncertainty and difference of opinion still pervade practice. Scholars in the field suggest that most productive questions have not been asked and that most experimentation continues to focus on problems of minor import." Pessimistic as this statement sounds, Robinson goes on to say, ". . . although unanswered questions persist, some evidence has been accumulated to guide decisions about sound practices in reading. Although children do learn to read through many procedures, the evidence is clear that their rate of progress may be increased through added knowledge of more effective procedures. Insightful experience combined with logical deductions have gradually produced curriculums and methods that permit a large proportion of children to learn to read. Research evidence is increasingly coming to direct changes in parts of the program."

I tend to agree with both the pessimistic and the optimistic aspects of these two quotations. In general the services being provided in the field of reading are better than they have ever before been. To some degree, research has helped to bring about these improved services. Today I have tried to outline five areas where we need to continue to work. We need to search for ways to prevent reading difficulty; to remediate when difficulty occurs, to enrich our present programs, to develop new programs, and to find new models for effective service. The critical variables are there, waiting to be found.

Bibliographical References

1. Joseph Justman, "Ability Grouping—What Good Is It?" **The Urban Review**, V. 2 (February 2, 1967), pp. 2-3.
2. Guy Bond and Robert Dykstra, "The Cooperative Research Program in First-Grade Reading Instruction," **Reading Research Quarterly**, VI. (Summer, 1967) pp. 5-142.
3. Helen M. Robinson, "The Next Decade," **Innovation and Change in Reading Instruction**, (Chicago: National Society for the Study of Education, 1968), pp. 398-99.

CLASSROOM IMPLICATIONS OF THE FIRST-GRADE READING STUDIES

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One of the hazards of conducting educational research is that sooner or later someone asks about the study's classroom implications. Today I have been confronted with that very assignment. For the past few years I have been involved with the Cooperative Research Program in First-Grade Reading Instruction. The findings of this ambitious investigation have been reported in two large volumes: Bond and Dykstra[1] and Dykstra.[2] A countless number of analysis of variance tables and correlation matrices have been recorded for posterity. Today I wish to reflect on the most important, as well as the most perplexing, question. This question can best be asked in two simple words —so what?

Before moving to the "so what" question, however, it would perhaps be helpful to summarize very briefly the research study itself. The Cooperative Research Program in First-Grade Reading Instruction, supported by the United States Office of Education, elicited the cooperation of many of the foremost authorities in the field of reading as well as that of public school personnel, educational publishers, and many other interested persons. Everyone involved in the study, however, had in common a desire to learn as much as possible about various facets of instruction in beginning reading.

During the first year of the program twenty-seven individual projects, enrolling approximately 20,000 first-grade pupils, were involved. Fifteen of these projects participated in a second-grade follow-up study. Each of the individual studies was a complete study in itself. The unique characteristic of the research venture was that each project director, in addition to carrying out his own analysis, made the data available to the Coordinating Center at the University of Minnesota so that an analysis of instructional methodology could be made across projects. In order for this overall analysis to be conducted each of the participating project directors agreed to abide by common experimental guidelines concerning test administration, length of experimental period, control of Hawthorne Effect, selection of a sample, and similar crucial experimental variables. Each project director also agreed to use a common set of evaluation instruments for measuring reading readiness and achievement and to collect common information concerning pupil, teacher, school, and community characteristics. Full details of the investigation have been reported elsewhere; my purpose today is to focus on its conclusions and implications.

I would like to preface further my remarks with the caution that the conclusions and implications I present are entirely my own interpretation of the research evidence. Your perusal of the data might lead to quite different conclusions. May I urge. therefore, that anyone with a special interest in the findings of this research endeavor go to the original reports and derive his own independent conclusions.

My discussion of conclusions and implications will cover a number of related areas. The study yielded information pertinent to the following general topics: 1. readiness testing and classroom grouping, 2. sex differences in primary grade achievement, and 3. instructional methodology in initial instruction. My closing remarks will discuss some general recommendations for future research.

Readiness Testing and Classroom Grouping

One of the purposes of the study was to determine the relationship between various reading readiness characteristics and subsequent achievements in beginning reading. A variety of pre-reading tests were administered to measure visual discrimination, auditory discrimination, letter knowledge, intelligence, learning rate, vocabulary, and listening ability. First-grade and second-grade reading ability were measured by group tests of word recognition and paragraph comprehension. Analysis of the data from this phase of the investigation lead to the following conclusions:

1. Prereading knowledge of letter names is the best single predictor of reading achievement in the primary grades. The predictive validity of this single readiness characteristics is of approximately the same magnitude as that of an entire readiness battery. Therefore, in terms of assessing when a child is ready to read, this single easily-administered test is probably just as useful as a time-consuming battery of readiness tasks.

2. Prediction of reading achievement cannot be done in a precise fashion. Even the best predictor of future achievement, knowledge of letter names, cannot predict very accurately how well any given child will succeed in mastering the skill of reading. Therefore, it is essential that teachers regard any intraclass grouping for instructional purposes to be of a temporary nature. Some pupils for whom prognosis is very bright on the basis of readiness test information simply will not make the progress in learning to read that is expected of them. Other pupils

for whom learning to read would seem to be an extremely arduous task make unusually rapid progress. The classroom teacher will have to make movement between and among instructional groups a normal procedure.

3. The various measures of reading readiness predict achievement in a similar fashion for many types of reading programs used in today's schools. There was no evidence in this study that visual discrimination ability is more highly related to achievement in one type of program or that intelligence is more highly related to achievement in another type of program or that any of the other readiness measures are differentially related to achievement in any of the programs studied. This study provides little encouragement to teachers who feel that children with special aptitudes or deficiencies in intelligence, visual discrimination, auditory discrimination, or letter knowledge, will have a better chance of success in one program rather than another. The evidence indicates that pupils high in any of the traits measured learn to read more easily, on the average, than pupils who score low on these traits and that they achieve at basically the same level regardless of whether they are enrolled in basal programs, language experience programs, linguistic programs, or initial teaching alphabet materials.

Sex Differences in Primary-Grade Achievement

The design of the study made possible a comparison of sex differences in readiness for reading as well as in first-grade and second-grade reading and spelling achievement. Results indicated a general superiority of girls at all three testing points. The implication is obvious. Primary-grade teachers will have to hold different expectations concerning the reading achievement of boys and girls. On the average, boys cannot be expected to achieve at the same level as girls under current methods of instruction. Similarly the typical boy, if indeed there is such a creature, can be expected to be less ready for reading instruction than the typical girl when he enters first grade. It is also also interesting to note that sex differences in achievement do not appear to be related to any special method of teaching reading. On the average, girls achieve at a higher level no matter what approach to beginning reading is used.

An examination of the types of tests on which sex differences are found yields some interesting information. Girls are superior to boys on all reading readiness tasks except the orally-presented test of general understanding vocabulary. At the end of the first grade girls are superior to boys on all achievement measures except for the orally-presented test of vocabulary. At the end of grade two a similar trend is evident. Girls are superior in spelling ability, word recognition ability, reading comprehension, language skills. and word study skills. Boys, however, are superior on the orally-presented test of science and social science concepts. A definite pattern exists. Girls are much better than boys in performance on tasks involving visual perception and reading-ing tasks. Boys hold their own when the task does not involve either of these two components. It is apparent, therefore, that the average boy will experience difficulty in reading and reading-related tasks. It is also apparent that the typical boy will experience difficulty with primary-grade group tests of intelligence which may involve a great deal of visual perception, a considerable amount of reading, or both. Perhaps a better estimate of intelligence, particularly for boys, would be an orally-administered test of general understanding vocabulary. This implication may be especially crucial because of the importance attached to intelligence test scores in planning instruction for pupils in many of today's schools.

Instructional Methodology in Initial Instruction

A major purpose of the Cooperative Research Program was to evaluate a number of beginning reading programs, many of which had been published or implemented in the past few years. Among the programs evaluated were conventional basal readers, phonics-emphasis instructional systems, linguistic materials, initial teaching alphabet materials. and language experience approaches. The relative effectiveness of each of the innovative materials and programs was evaluated by comparing pupil achievement in these programs with the achievement of pupils who learned to read by means of well-known conventional basal readers.

A number of conclusions seem warranted by the data. In the first place, instruction in phonics appears to be highly related to word recognition and spelling achievement in the primary grades. This finding is true for a wide variety of techniques for teaching sound-symbol relationships. Apparently, phonics can be taught successfully by inductive means, by deductive methods, by so-called synthetic phonics programs, and by analytic phonics systems. There is some indication that the method by which phonics is taught may not be as important as the fact that direct attention is given to helping the pupil learn sound-symbol relationships.

It is impossible at this point, of course, to assess the long-range effect of concentrated phonics instruction on reading ability. The possibility exists that emphasizing phonics in the initial stages of reading instruction has only a transitory effect on word recognition skills. It may even be that heavy phonics emphasis has a detrimental effect on reading fluency and comprehension in later years. Nevertheless, there is a strong indication that early instruction in phonics is related to early success in word recognition and spelling.

A related conclusion is that various kinds of control of sound-symbol correspondences help the child to recognize more words at an earlier stage. The initial teaching alphabet controls sound-symbol relationships by introducing what approaches a phonemic alphabet, one in which one graphemic symbol is related to one functional sound in a language. Certain linguistic materials control sound-symbol correspondences by introducing initially only regularly-represented words. Each of these systems of vocabulary control appears to facilitate acquisition of skill in unlocking words and in spelling. Therefore, some control of vocabulary in beginning materials according to sound-symbol correspondence is likely to be helpful.

Teachers should likewise make note of the fact that direct instruction in comprehension is apparently essential even in beginning materials. The superiority of various phonics-emphasis programs in terms of pupil achievement in word recognition and spelling was not demonstrated, as a general rule, in the area of reading comprehension. The assumption can be made that the ability to recognize words does not transfer automatically to the ability to comprehend the meaning of sentences and paragraphs. This finding does not support the contention that the pupil's only task in learning to read is to develop the ability to translate graphemic symbols into their oral counterparts on the premise that once he has decoded the words the child will understand their meaning. Instructional materials should be developed with the teaching of comprehension as one of the goals of the program. Furthermore, teachers must impress upon the young reader that reading involves considerably more than mere decoding.

There is also evidence that a writing component is an effective addition to a primary reading program. Among the more successful programs were those which asked the pupil to learn to write the graphemic symbol as a means of learning to recognize it. It is likely that writing symbols in connection with phonics instruction is helpful in aiding the pupil to learn sound-symbol correspondences. Furthermore. writing irregularly-represented words such as **the** and **of** is probably helpful in committing such high frequency structure words to the sight vocabulary.

A related implication to those presented above is that early attention be given to teaching the beginning reader or, perhaps in most cases, the prereader to recognize the letters of the alphabet. Knowledge of letters and the ease with which a pupil learns to recognize letters are predictive of the facility with which the child will learn to read. The ability to recognize and name the letters is likewise a prerequisite for phonics instruction. Therefore, teachers will likely find it useful to teach letter knowledge during kindergarten or in the early stages of the first grade.

It is also apparent from this study that expectations of pupil accomplishment in initial reading instruction can be raised. Primary pupils can learn to recognize considerably greater numbers of words than are commonly introduced in reading programs. This is especially true if initial vocabulary is controlled on the basis of sound-symbol regularity. Of course, the question of whether or not beginning readers should learn more words is still open to debate. Longitudinal studies may yet show the importance of introducing vocabulary slowly and of repeating words often. Evidence available at this point is insufficient to test the contention of many reading authorities that early concentrated emphasis on phonics and rapid pacing of vocabulary have a deleterious effect on reading fluency and comprehension in later grades. The advantage of introducing vocabulary more rapidly and of accelerating the introduction of phonics skills is that it enables the pupil to become an independent reader at an earlier age. Additional longitudinal information is necessary to evaluate the long-range consequences of these instructional procedures.

A Closing Statement

Although I have pointed out some elements of instructional methodology which appear to be related to pupil achievement in primary reading, the implication remains that the teacher and the entire instructional setting are the key elements in determining whether or not a child learns to read and the extent to which he achieves skill in this most important task. The study provides strong evidence that the school system is more influential in determining the average reading achievement of pupils than is the particular set of materials which are used in the instructional program. The extensive range in achievement among classrooms within any method points out the importance of elements in the learning situation over and above the materials employed. The elements of the learning situation attributable to teachers, classrooms, schools, and school systems obviously play a large role. Much of this variability is undoubtedly a reflection of teacher differences. At any rate, it is likely that improvement in reading instruction can be brought about more efficiently by improved selection and training of teachers, by improved in-service training programs, and by improved school learning climates than by instituting changes in instructional materials. Our next task, therefore, is a highly complex one. We must identify those characteristics of teachers which differentiate the **good** teacher from the poor teacher. We must then either select for the teaching profession individuals who already possess these characteristics or set up a program to help the teacher or potential teacher to acquire them. We must also identify those characteristics which differentiate the **good** school system from the **poor** or **mediocre** one and then help each system to acquire these positive components. It appears that we have our work cut out for ourselves. It is not necessary to start from scratch, however. The Cooperative Research Program in First-Grade Reading Instruction, as well as many other investigations which have preceded it, have provided some insights into the realm of initial reading instruction from which to build future research endeavors.

Bibliographical References

1. Guy L. Bond and Robert Dykstra, "The Cooperative Research Study in First-Grade Reading Instruction," **Reading Research Quarterly**, Volume 2, No. 4, (Summer., 1967), pp. 5-142
2. Robert Dykstra, **Final Report of the Continuation of the Coordinating Center for First Grade Reading Instruction Programs**, USOE Project 6-1651. Minneapolis: University of Minnesota, 1967.

THE DISTAR READING PROGRAM

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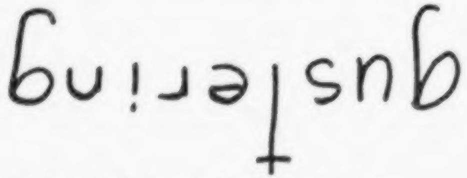
One of the strongest recommendations in Chall's recent book is that code emphasis programs should be the first step in beginning reading[1]. Now we can expect much discussion of which skills to include in teaching to break the reading code, why they should be included, and how they should be taught.

One way to decide upon a set of skills to be taught is to look at the terminal behavior, reading a word, and then to analyze the skills it took to read that word. Read this word and then analyze what you did.



1. You translated the symbols into sound;
2. You read the word from right to left;
3. You said the word slowly or sounded it out, then probably consolidated the parts gus, guster, gustering;
4. You said it fast to get the finished word.

These are the essential skills to be taught to children so they can do what you just did.

The Distar program developed by Siegfried Engelmann and me teaches the minimum set of skills to enable children to crack the reading code as rapidly as possible. When the children start to read their first words (usually within the first or second month of instruction), and see the payoff for all the hard work, and take home a little book, proud of their accomplishment, and some adult or older sibling is impressed, the children will work even harder to keep succeeding.

Rather than to develop the program with the average child who comes to school well prepared to learn the basic skills because he already possesses many of the subskills, our population for materials development was composed of culturally disadvantaged youngsters with I.Q.'s in the 75-100 range. When these children, who might fail to learn to read, learned to read well—one such group of these children achieved the 2.6 reading level at the end of their kindergarten year—we could credit our instructional method.[2]

The Program[3]

Left to right orientation.

In the word **me** the first event of the sequence, **m**, is always positioned to the left of the second event of the sequence, **e**. We read **gustering** because we knew where to start the sequencing, but the naive child must be taught to sequence events and to symbolize the sequence in a fixed order. He must then read or translate the symbols into actions, just as the symbols m and e signal a reader to act by saying mmm and eeee.

We could teach him to sequence picture stories by ordering which event occurred first, but we might have to teach certain language and picture interpretation concepts. We could teach him to position a set of blocks similar to one set up by the teacher, but we might have to first teach shapes or colors. A good program should try to control the variables but the block task could depend on whether the teacher sits next to or across from the child when she instructs him to arrange his blocks just like hers. The language concept of "same as mine," might also have to be taught.

We teach the child to sequence a series of actions, to answer questions about what he did, and then to symbolize those actions and to "read" the symbols in the proper sequence.

1. There is a correct sequence. The teacher performs two actions, such as clapping her hands and slapping her lap with one hand. She says, "I'm doing it the right way. Do it with me."

2. When the children can perform the sequence, the teacher presents two incorrect actions and asks, "Is this the right way?"

3. The teacher also presents the correct actions in an incorrect sequence, such as slapping her lap first, and asks, "Is this the right way?"

4. After the children can do many similar tasks, they start to learn the terminology of **first this; then this** when the teacher performs the first part of a sequence and asks the children, "Then what did I do?" They get turns doing the first or second or third parts of the sequence to focus their attention on the role of an individual part in a sequence.

5. The arrow and the convention for following an arrow is demonstrated.

6. The teacher performs first a single action, then a series of actions and when the children have shown her what she did, she draws the actions on a series of faces appearing on an arrow.

7. The last exercises present a series of faces and arrows with different parts of the face, or hands on the face, indicating actions to be performed. The children read or translate the symbols into the appropriate series of actions, performing them as they occur in time, on the arrow, from left to right.

These symbol-action games are a terminal exercise to show the child what reading will look like—paper printed with a series of symbols to signal a series of actions, occurring in a fixed order, from left to right, and appearing as does our early reading material on arrows.

Blending

1. Slow. As you blanded, you knew that the slow version of **gustering** would still give you the same word when it was said fast. We must teach the child to hear this relationship, so that later, when he sounds out words a part at a time, he will know that the series of parts which he **sees** and says, mmmmmeeeee, are really the word **me** said slowly.

To teach the slow blending, or unblending, the teacher presents a normally spoken word in this type of task. "Listen: me, say it slow, mmmeee. Do it with me, mmmeee. Now you do it. Me, say it slow." After the children have said **me** slowly, the teacher asks, "What are you saying slow?" She then repeats "me. mmmeee," to show the fast-slow relationship.

2. Fast. To teach fast blending we orally present words divided into two parts or many parts and present the task, "Say it fast and I will show you the picture." The breaks in the whole words or the pauses between word parts replicate the natural pauses or hesitancies of the beginning reader, such as b..oy, m..oo..n, str..eet, f..a..m..i..l..y.

Isolated words to be blended lead into sentences and little stories read by the teacher with some words to be blended and a picture payoff. When the child starts to read, he sounds out the word a sound at a time, hears the slow version, and responds to the instruction "Say it fast," with a fast blend of those same sounds.

Rhyming

The rhyming exercises teach the children to focus on the parts of words that are similar, to hold part of a word constant and put different beginnings on the fixed endings. In reading, words have parts that look the same; rhyming prepares for this by teaching that words sound the same.

The rhyming exercises are started with long words since there are more parts that remain constant. We see here one of the paradoxes in reading—in oral exercises long words are easier for the child to work with, but in written exercises it is far easier to deal with small words. Rather than elicit rhyme words, the children are presented with a word and words that rhyme with it. Then the child is given the first part of a series of rhyming words and asked to complete them. The tasks increase in difficulty as the children start to learn how to supply the missing parts of short rhyme words.

For example, the word **sat** is given and the words that rhyme with it. The child is then asked to "Rhyme with sat, ma. . ., ra. . ., fa . . ." When this is done, he is asked to "Rhyme with sat, m. . . , r. . . , f . .."

The oral skills taught, blending and rhyming. and left to right sequencing will, after the initial set of sounds have been mastered, converge into reading words.

Sounds

One of the major difficulties with reading-troubled children is that they have been exposed to too many letter sounds, letter names, and letter symbols. To facilitate early sounding out of words, we have done the following:

1. A basic set of nine lower case letters were selected as the initial set to be learned because those letters combined readily into many words, and because they were not confusing aurally and, as we have shaped them, are easy to distinguish visually from each other. The children start to read with only these letters.

2. The letters are taught as sounds, with each symbol making one and only one sound.

3. These sounds are overlearned, that is the children become so familiar with responding to the visual symbol by giving its sound, that when the symbol is first presented in a word, it is immediately identified. Each of the sounds in the early reading stage has been repeated several hundred times.

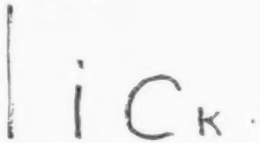
4. This initial set of sounds in their order of presentation are: m, a, s, e, f, d, r, i th. These and all subsequent sounds are introduced at the rate of about two per week.

To prepare for the reading of sounds in words, the convention of sound sliding is taught. Since stop sounds will appear only at the end of words for a considerable period, the rule is taught that each sound is held for several seconds until the teacher points to the next sound and the next, with no pauses between sounds.

The first words appear in exercises called Reading Sounds, one page of which always contains a series of rhyme words to be read. When a stop sound-first word is introduced, that word appears as the final word in a rhyme series where all the other words start with continuous consonants.

After the children have begun to sound out words, more sounds are introduced including c, o, n, t, a, h, u, g. l, w, sh. Based on these 20 sounds the children can start to read independently in story books of from one to 25 words. The books, once read, are theirs to keep.

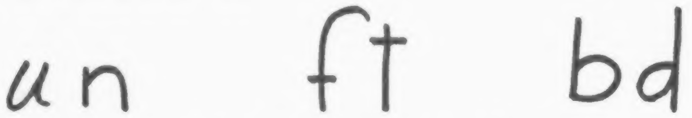
All words on the take home story books are spelled correctly. Until a sound has been learned, it will appear in the word, but in very small type. Gradually it assumes normal size, for example until **k** is taught, it looks like this in a word:



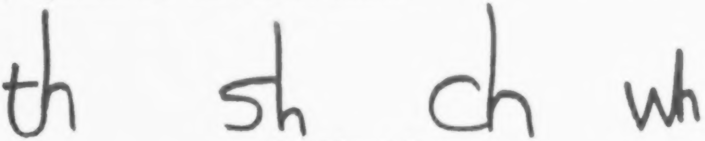
Appearance of the type

1. For the first two years, all books read by the children have letters ½ inch or larger.

2. To minimize visual confusion between certain parts of letters, they are printed as follows:



3. Certain sounds initially appear as joined letters and are gradually separated into two distinct letters.



The Materials

Physical Description

The Distar Program consists of two sets of materials, teacher presentation notebooks and materials called **take homes** which the teacher awards to the children to complete in class and take home. The teacher presentation books are easel notebooks, held on the teacher's lap, as she works in her small group reading circle. There is a teacher presentation notebook for blending, another for sounds and one for the remaining oral tasks.

The teacher works with the children for several minutes daily in each of the presentation notebooks and several minutes with the

take home materials for a total reading session of 20-30 minutes with several skills being taught each day. The teacher works in a presentation notebook until a colored page indicates the end of the lesson in that notebook and she then teaches from another notebook.

All statements to be made by the teacher, prompts, pacing, correction procedures, sufficient examples and instructional materials appear directly on the pages of the teacher presentation notebooks. One color and type of print contains instructions which the teacher reads to herself, another type print and color indicates statements she is to read aloud directly to the children in the instructional setting.

How the Materials do the job

1. Praise. The teacher reads her "part" from her notebooks. She is given statements to make such as "Good, you said **m**," "That was good remembering," "You are smart. I can't fool you today," "That was hard work, but you did a good job" and she is told when to make those statements.

2. Corrections. The teacher is told when and how to correct. In the Reading Sounds for example, she is instructed to tap the incorrectly identified sound, say the correct sound herself and then tell the children to return to the beginning of the word, and say the sounds again before she tells them to "Say it fast."

3. Pacing. The teacher teaches only those pages indicated as comprising a lesson. The suggested schedule for the first several weeks consists of 3 minutes of symbol and action games, 5 minutes of blending, 3 minutes of rhyming, 5 minutes of visual sounds and 5 minutes of take home materials.

4. Formats. The sounds to be identified by the children for example appear on sweaters and helmets of a row of football players, on the drums carried in a parade, on the cars of a railroad train, on the backs of circus animals and so on.

The Reading Sounds pages have teacher instructions statements on the left half and words on arrows to be read on the right half.

The Blending notebook has the picture reward following the text.

5. Payoffs. Every task has a payoff. For knowing each sound, the child or the teacher crosses out that sound on the plastic coated sounds pages in the teacher notebook. Each day the child receives a page of the sound being taught to trace and then take home.

For working through the blending slow exercises, the children are rewarded by a high interest blending fast story. They are reminded. "The say it slow words are tough, but when you do a good job, I will read you a say it fast story, and then you will get to see the picture."

Success in reading the sounds as a group and then individually is rewarded by a take home story book with text on one page, and a picture on the next.

6. Instructional material and examples. All materials except the take homes are in the teacher notebooks. The chalkboard is not used because the teacher can control the group better when she always faces them, as she can when using a notebook on her lap.

7. Criterion tests. The program permits children to proceed at different rates. The below average children may proceed at half the rate of the average disadvantaged children and the higher performing children may complete the program in half the time.

The first part of a lesson in each teacher notebook every several days is a criterion test or "review" testing the specific materials taught in the preceding days. If more than one child in a group cannot pass, the group drops back and repeats several lessons in that notebook. This provides for children adept at oral blending but weak in symbol identification. The reading is keyed to the particular group's place in the sounds book.

Development of the materials

Engelmann and I write all the materials and the reading books and I teach these materials from teacher instructions to 4 groups of culturally deprived youngsters with I.Q.'s in the 75-100 range in our school at the University of Illinois. The materials are revised, reproduced, and sent by the publisher[4] to the 30 tryout teachers who are teaching reading to 1200 middle-class and disadvantaged children from first grades, kindergartens, nursery schools, second and third grade remedial classes, mentally and educationally handicapped youngsters with ages 3-14 represented in the field test population. The teachers complete objective and subjective evaluation sheets on each lesson and criterion test and the children will be tested in June, 1968.

Summary

Before mature reading can be attempted a child must devote considerable time in his first two years of reading instruction to mastery of the basic skills including those necessary to crack the code. and after reading starts, to the learning of more than one sound for many letter symbols and at least two symbols for each letter, how to handle irregular words, and how to attack new words by sound clues rather than by configurations. By studying and working for five years with children with low mental ages, both middle-class and disadvantaged non-readers and reading failures we suggest an approach designed to buttress against many of the causes of reading troubles by keeping the information load light and the repetitions heavy.

The teachers in the field tryout attribute part of their success in teaching reading with this program to the direct instruction method, the kind of teaching upon which Distar is based, but which was not emphasized in their college methods courses.

My satisfaction has been in seeing so many potentially reading-troubled youngsters understand what reading is all about, and having teachers tell me that they now know that there was nothing wrong with them or with the children: it was just a function in the past of not zeroing in and focussing on the basic skills.

Bibliographical References

1. Jeanne S. Chall, **Learning to Read: The Great Debate,** (New York: McGraw-Hill, 1967), p. 307.
2. Siegfried Engelmann, "Teaching Reading to Children with Low Mental Ages," **Education of the Mentally Retarded,** 1967, pp. 193-201. Elaine C. Bruner, "The Direct Instruction Program for Teaching Reading," in Richard Block et. al. **Language Arts,** Proceedings of the Fourth International i.t.a. Conference, 1968.
3. Siegfried Engelmann and Elaine C. Bruner, **Teaching Guide to Distar Reading Program,** preliminary draft.
4. Science Research Associates, division of IBM, 259 East Erie Street, Chicago 60611.

DIAGNOSIS FOR THE CLASSROOM TEACHER

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There is a kind of mystique about the word "diagnosis." It sounds complicated. It sounds expensive. Yet its origin indicates a simple meaning—"to know more." Stripped of its aura we recognize diagnosis as an integral part of any teaching-learning situation. It is not something restricted to failures. Nor is it something confined to a Medical Center or Reading Clinic. It is a purposeful attempt to ascertain the probable potential the individual has, to hypothesize why he is where he is, and to indicate what are some first steps to be taken in order that this individual may achieve increased competency and satisfaction from learning.

We are concerned with the classroom teacher as a diagnostician. Therefore, in this session we will focus on instruments and ways suitable to accomplish her particular goals. Because the classroom teacher is in a position to modify plans flexibly, exhaustive one-shot testing is not necessary. This is to the advantage of some disabled readers, for what they want is instant help. Testing to them is accumulating more evidence that merely confirms what they already know—they can't read. Of prime concern to the classroom teacher is to determine a place to start.

She does not have the time to do much individual testing. Therefore, the measures she uses must yield the most information in the least time and be of such a nature as can be administered and interpreted with a moderate amount of training.

Diagnosis, to be efficient, must lead to remediation. For the classroom teacher such plans have to focus on handling a number of children at one time and yet making the greatest effort to meet individual needs through flexible grouping and judicious use of pertinent materials. It is a large order. The teacher of the self-contained classroom has the possibility of being able to provide remedial and compensatory teaching in all that happens to the child during the day. Her teaching emphasizes understanding of the problem and functional applications. It can offset the advantages of concentrated tutorial sessions, all the while recognizing that a combination of the two would be ideal.

The first diagnostic instrument the teacher has at hand is professional judgment. She knows the environment from which her children come and its general effect on the educational aspirations of the child. She has the cumulative folders through which she can gain certain background information. I am a little wary of extensive use of cumulative folders as starting points. Sometimes, as much as anything, they reflect teacher bias. They are useful to go back to afterwards to determine trends, or perhaps see to what extent absences may be a factor. Usually they offer clues as to what someone thinks the child has done rather than why.

One of the first things usually available to a classroom teacher is a roster of the grade to which she can add such information as sex, age, and the results of latest I.Q. testing. The ratio of boys and girls is important. A preponderance of boys usually results in more big muscle activity and hopefully more vigor. It may also mean the possibility of more reading problems. The classroom teacher above the beginning primary level knows that common interests are more likely to be determined by sex as opposed to achievement levels.

School entrance is mainly determined by chronological age. It is a poor criterion.

Retention is the most usual way of handling those that do not seem to measure up. As a result, in the average sixth grade classroom in the United States about 20 percent of the children will have repeated at least one grade. Retention without a specific program aimed at helping the child overcome his deficits is ineffectual. So the classroom teacher must be aware of such children and recognize some diagnostic features. If the child still is an active part of the classroom, chances are he is surviving not on knowledge or proficiency but on common sense. He is using what he has gained from having lived longer rather than having understood basic skills involved. As a result his comprehension scores may be inflated by his ability to work the angles rather than demonstrate acquired skill. On the other hand, he may have bits and pieces of knowledge that are nebulous and noncontributing to his well being, but which, if tried together, may provide for rapid growth.

Motivation is an important consideration. How actively involved are these youngsters in learning? Do they come to school with interest, enthusiasm, and hope? If so, this will give an extra thrust to what they can accomplish. Are they listless, sullen, passive, withdrawn? If the answer is "yes," then the teacher may expect less than any paper and pencil estimate she may initially make, for she will realize that the first group will not be daunted by difficulty; the second is threatened by failure. Psychology says there will be no learning if there is no obstacle between the learner and the goal. But the obstacle, to be efficient, varies with the learner. The child with little hope cannot cope with as great an obstacle as the child who has repeated success under his belt. The classroom teacher can do that which she does well—watch. On the basis of periodic observations focusing on selected children, she can form conclusions.

To what extent does the child

1. Guess reasonably. rashly, not at all.
2. Be an active group member or withdraw, passive.
3. Work independently or lean on someone else.
4. Follow directions.
5. Show interest and intellectual curiosity.
6. Demonstrate originality, humor.

I.Q. as a measure of intelligence is related to ultimate success in reading. Intelligence is something that can't really be measured directly. It can vary, and is affected by environment, health, and other things. Group intelligence tests are not as reliable as certain individual measures, but chances are group results are what the teacher has. If the test was administered less than two years ago, she can use it with confidence to get some estimate of expected reading achievement. All the while she will be quite aware that measures of general tendency may obscure the real conditions of the class.

Up to this point the teacher has considered sex, environment, age, motivation, and reading expectancy. What she is essentially concerned with is how well they are reading.

Since teachers are primarily concerned with groups of children. I suggest the best instrument to supply some answers is a standardized test. It is my opinion that teachers do not get all the available information possible. They look at the results and are either unnecessarily enthusiastic or depressed. They recognize that halfway through the fifth grade, for example. the class average should be 5.5. But then they translate that as the poorest any in their grade should achieve. If that is the expected average. then some are expected, 50 percent of the class, to fall below that, 50 percent above. As the norms were developed by the test makers, the scores were expected to extend over a six-year range.

Since we are going to lean heavily for diagnosis on an achievement test, let's face some facts concerning them. What are some things they are useful for: Screening, to compare a given group with another group, to compare this group with national norms, to separate groups from each other, and to offer a type of gauge when selecting material. What are some assets? They are objective. They are usually carefully constructed. They require less time than some other measures. They require less skill on the part of the teacher.

Some of the drawbacks are the following. They do tend to overrate in that the score is a composite of all a youngster knew plus all he could guess. They test sustained attention over a short period of time. They are tests of aided recall where most items are based on reading for detail. They represent a threatening situation.

Most survey tests yield separate scores on vocabulary and comprehension. The total reading score is an average of the two. At this point teachers are sometimes puzzled because there is great discrepancy between the two sub-tests. Which should be used? At Memphis State Reading Center when we have sought to place children rapidly into instructional groups, we have found the combination of the two with modification yields almost the same results as the more time-consuming informal reading inventory.

Another word of caution in regard to standardized tests. The grade score, with its decimal point, gives a spurious air of precision and is sometimes confusing. Percentile scores may be more useful in telling the teacher where the youngster would be in any group of 100 students of the particular grade level.

Since the standardized tests results represents all the child knew plus what he could guess, the level achieved, is really nearer his frustration level. What the teacher wants is his instructional level, where the child, with her help, can cope with the vocabulary and sentence length, and yet have energy to concentrate on skill growth. At the intermediate level, my guess is that his achievement test score will be inflated by one year. In our expereince it is less at the primary level and frequently more at the secondary level. Deducting the appropriate amount from the achievement score, the teacher can get a first estimate of the instructional levels.

But what they seem like on paper and what they do in class are two different things. At this point she needs to refer to her estimate of self-concept and motivation. Psychologically it is better to slightly under estimate instructional level and adjust upward soon rather than place the child too high and have to move him downward.

Translating the results into conventional reading levels the teacher now has a fairly good idea of her grouping within her grade. Starting the children in appropriate material at a level where they can succeed, she can move them forward if she teaches them. These group suggestions should be flexible and may need to be revised soon, but having decided at what level, she now asks herself what skill did the youngster use in order to get his test score? A consideration of the sub-tests is in order.

One sub-test is Vocabulary. In this case the word in question was given in a phrase. The phrase was helpful only in that it revealed what part of speech was involved. The child selected from four or five choices. Not much reading was involved, but neither were there any extra clues and the meaning supplied might not be the meaning the child had for this word.

In the comprehension sub-test he had to read paragraphs of varying length. A series of questions followed. Some involved main idea, inference. important detail, or sequence. In this task the other words helped out.

If the score was appreciably higher on vocabulary, perhaps the child can do better if he does not need to do much reading. Here the task may be one of recognizing a word or identifying a detail. Interrelationship between words are not stressed, but word recognition skills are. Carefulness and accuracy pays off. He may be a word-by-word reader and in this limited task will not be handicapped by his lack of phrasing.

What such a youngster needs may be much easy reading to build sight vocabulary, phrasing which improves speed of comprehension, practice in reading for the main idea, some stress on the use of context. He may benefit from special exposure to words with multiple meanings.

If his score in comprehension is much greater, chances are he used context clues. He may have guessed at what he didn't know and was able to profit from the fact that there were more clues in the longer paragraphs. He was better at identifying the general idea than he was at giving painstaking attention to details. Usually these youngsters are more able although older youngsters will use common sense and do well.

In general, such a youngster needs some stress on careful accurate reading. He may be deficient in word attack skills since he seems to be over-relying on one, so he may need emphasis on syllabication, phonics, and structural analysis. He needs to learn to distinguish essential from non-essential detail. He also may need to learn to control the tendency for habitual bluffing. He may be compensating for poor work habits by rashness and haste.

Sometimes the child who is a slow worker can be identified. He will get right most of the items that he has time to do and will not be handicapped if the test has generous time limits. This child has a short recognition span, makes many fixations, and frequently moves his whole head as he progresses across the page.

In this task of trying to decide how the youngster achieved the score he did, one generally comes across two more types. One youngster picks and chooses. He will choose according to the content—avoiding science if it's a girl, choosing it if it's a boy, selecting the shorter passages if he is test wise. The second type is the impulsive, rash youngster who guesses wildly. He may mark more items than any other child. In a way, he is like the context reader in that his score will largely reflect his ability to work with minimal clues and his procedures will encompass daring and impulsiveness. The wise teacher will be aware of all these things. During the test while the childern work, she circulates making notes about each child and how he meets this challenge, how he copes with this threatening situation.

If there is at least ¾ of a year's difference between the vocabulary and comprehension scores, it may be considered significant for that is usually beyond the standard error for the test.

At this point if the teacher feels the need for more information, standardized diagnostic tests may be of help. But she needs to realize the word Diagnostic in the title may not be true.

Actually this is the kind of teaching that continuously assesses in order not to waste time on what a child already knows but yet provides re-exposure for that which did not take the first time. It is hard to beat the sensitive, knowledgeable classroom teacher as a diagnostician.

THE USE OF PAPERBACKS IN THE CLASSROOM: RESEARCH AND IMPLICATIONS

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"I'd rather be caught with Lady Chatterly in hard cover than Hot Rod in paperback," a precocious high school junior in New York City told me earlier this year. "Hard covers get you one detention, but paperbacks get you two or three," he explained.

Curriculum change is painfully slow in inner city schools where change is most needed. But even in the ghetto, changing perceptions of paperback books are making this high school junior's report a rare phenomenon. It seems that paperbacks are beginning to make the education scene. Having served its 50 years in educational purgatory, the paperback is becoming an acceptable "innovation" which, I suppose, means that it is no longer a true innovation.

Only half a decade ago research indicated that using paperbacks in schools was still something new. Reviewing the literature up to 1963, Cohen[1] concluded that the use of paperbacks in secondary schools was still limited to book reports and "free reading." Studies in 1959[2] and 1960[3] reported that while 30,000 different paperback titles were in print at that time, most teachers were unaware of what was available in paperbacks, where and at what cost.

At that time, school keepers were just beginning to notice that paperbacks had gone legitimate. Children were allowed to read them to supplement their anthologies as long as they avoided Holden Caulfield and other truths that might pique board of education guardians of purity, chastity and motherhood.

But that was the old days. Now it is 1968, and we are swinging with paperbacks. Shortly after the Cohen review of research in the use of paperbacks, but certainly not as a result, Teachers College Columbia University formed "The Committee of Forty." This committee gathered together university educationists, publishers and school keepers to pat each other on the back, for they were all believers, supporters or participants in the "paperback revolution." It was the first "international" paperback conference at which members of the paperback "elite" told each other about the value of paperback books. It was a case of carrying pedagogical coals to Newcastle. Out of the conference came proceedings under the title, **Paperbacks in Education.**[4] As of March 1968, that book sold 2525 copies mostly to Teachers College Columbia students who were assigned to read the book. So, for all the committee's work, the pedagogical coals did not get much further than Newcastle.

More influential in spreading the use of paperbacks, was Dr. Max Bogart who conducted a "study" of the use of paperbacks in the New Jersey public schools.[5] Sponsored by the State of New Jersey Department of Education, Bogart's study included 50 public schools carefully selected on the bases of location, size, grade levels, community characteristics, and so on as a representative sample of all the state's schools. Supported by a small grant from the New World Foundation and 40,000 books from the American Book Publishers Council, Bogart used teacher logs, observations, questionnaires, interviews and test data to measure the various effects on pupils and teachers of paperback books as basic materials in the curriculum. Based on his findings, Bogart suggested using paperbacks with slow learners and reluctant readers. He recommended that $2 per student per year be expended on paperbacks for the elementary schools and $4 per student per year at the secondary level. He suggested that this expenditure be made for extensive classroom libraries, although he also suggested that school libraries stock paperbacks, too. Among his recommendations was that school budgets be flexible enough to allow teachers to order paperbacks on a day to day basis as they needed them. The New Jersey study indicates that paperbacks will probably influence curriculum and have a positive effect upon pupils who participate in that curriculum. Most reasonable educators would have probably accepted this before Bogart's study. In fact, most reasonable educators and intelligent laymen would wonder why anyone would bother to study the use of paperback books in the school. Large varieties of quality books should have some relevancy to good education! Why do a study? Alas, some educators are not reasonable and some laymen are not intelligent, and this is why Max Bogart's study is so important: he got New Jersey schools, many more than the 50 he studied, on a paperback book kick. He got schools to recognize that large varieties of quality literature have some relevancy to teaching literacy and by putting the New Jersey State Education Department's stamp of approval on paperbacks, he made them officially legitimate.

Another study reported a year earlier[6] involved 25,000 New

York City high schoolers, 2,000 parents, 78 department chairmen, and 45 teachers. About three-quarters of the students, 70% of the chairmen, and 60% of the parents favored paperback books over hardcover texts. This study, too, influenced the schools so that the number of paperbacks used in the New York City high schools increased significantly in 1965 largely as a result of this study. But this study's influence on this school system was far less than the Bogart study's influence on his state; this may be less a reflection of the study and more a reflection of the respective systems.

The New York City and the New Jersey projects were the most exhaustive studies of the pedagogical aspects of paperbacks in the classroom. About 50 other articles on paperbacks in the schools have appeared in journals since 1964. Most of these fall into two categories —polemics for paperbacks or studies of the relative economics of paper vs. hard cover books.

In the first category we get such emotional outbursts as "Throw Out the Textbooks,"[7] a three-page exhortation of Fader's **Hooked On Books: Program and Proof.**[8] Fader's book is perhaps paperback publishers' greatest salesman with such enticing subtitles as "The Reading Program that Woke Up Teachers," and "How to Get the Most Reluctant Reader to Read, Read, Read!" by Daniel Fader, Ph.D. and Elton McNeil, Ph.D. Fader salutes three paperback book distributors in a touching dedication that would make the NAM burst with pride over the sudden concern of American businessmen for poor Black kids in the ghetto. But in spite of this hoopla and a rather gushing, sophomoric exhuberance that suggests that Daniel Fader, Ph.D., had a former ad writer as an editor, the book does describe the exciting experiences teachers and children in ghetto schools or in reform schools can have if these kids are taught well with paperback books. Anyone who has seen, for example, the Ludington Reading Rooms in the Detroit ghetto cannot help but be impressed with the convenient amalgamation of good teaching, paperback books, and private business. Ivan Ludington is a Detroit paperback book distributor who discovered that the money he "gave away" in the form of paperback libraries to inner city school children resulted in increased sales, excellent public relations and a good feeling about himself. The Fader book includes book lists, measuring techniques, as well as descriptions of the simple methods he used to get kids hooked on paperback books.

Over the past five years **School Management** has published a number of articles describing successful uses of paperback books in schools. It reports such profundities as Concord, New Hampshire High School sells 125 books per month, has an algebra paperback book and uses paperbacks for leisure reading. In Tarrytown, New York 10 out of 18 teachers said they use paperbacks in class; 74% of the seniors have been assigned paperback books in English class. Trumbull, Connecticut High School has a paperback book rack in every classroom and students can borrow a book from any room. Greenville, South Carolina, Austin, Texas and even Meridan. Mississippi, among other contributors to **School Management**, report paperback programs. And to make it official **School Management's** survey of three to four thousand libraries indicates at last count[9] over three-quarters of American high schools sell paperbacks, 63% circulate them from their libraries, and students like them. Less than 3% of the libraries polled in 1967 refused to use paperbacks at all. Paperbacks are here.

But what about costs. Aren't paperbacks more expensive to use than hardcover texts? California did a controlled study of basal texts in soft cover compared to hard cover and found that the latter were more practical.[10] The Texas Education Agency came to a similar conclusion two years earlier.[11] Both studies, however, are defining paperbacks in the strictest terms. Essentially these studies asked, "If we put Dick, Sally and Spot in paperback, and make no other changes in pedagogy, is it worthy doing?" The answer of course, has to be NO! Not because it will or will not save money—but because educationally Dick, Sally and Spot in paperback is unimportant to us. The New Jersey study was not testing technical factors of paper covers and bindings. Bogart, the Committee of 40, The New York City Study, and Fader, used the term "paperback" to describe low cost varieties of literature that allow us to saturate classrooms with various books, of various content, at various levels of interest and difficulty. And using **this** definition of the term, the studies consistently report that paperbacks are inexpensive. In other words, pedagogically they are a bargain. Technically they stand up well enough. The New Jersey study, for example, reported that 52.8% of the paperbacks were read four to ten times each. Over 75% of the paperbacks could be used a second year.

Except for surveys dealing with attitudes, preferences, use, misuse, knowledge or lack of knowledge about paperback books in American schools, this entire subject does not rate a conference paper of the same rank and prestige as a legitimate report of research. Paperbacks certainly can be used in research. For example, Allen Berger used paperbacks as part of an experimental treatment to investigate ways of increasing reading rate, comprehension, and flexibility.[12] But he could have used hard cover books to do the same thing that soft cover books did.

The point is, what are we talking about when we make an issue of paperback books in schools? Essentially we are talking about a method of delivering to the classroom large varieties of literature covering many subjects at many reading levels. Once we put literature in the pupil's hands, what we do with literature as teachers and students does not hinge on whether or not the book has a paper cover or a hard cover. The issue is whether or not school people recognize the value of individualized reading in all content areas made possible by large classroom libraries. The issue is whether or not school people are willing to let children read according to their own choice with some guidelines, of course. The issue is whether or not school people really appreciate the power and role of books in education. When I look at all this literature about using paperback in schools I'm not sure school people do. The proof? Why is it taking so long for grade schools to use paperback books as something other than supplementary readers? Why do so many teachers tend to view pupil-selected books, whether paper or hard cover, as supplementary to the text? All this indicates that too many teachers are not willing to let children read at their own levels and rates in books of their own choice; that too many teachers do not understand the role and power of literature in teaching in all content areas.

Let us resolve to have no more conference papers on paperback books and get to the real issue: Why is it taking so long for these books to catch on in the school? Or better yet, Why does it take so long for anything good to catch on in the school?

Bibliographical References

1. S. Alan Cohen, "Using Paperbacks in the Secondary School," **Journal of Education**, Vol. 46:4 (April, 1964), pp. 19-26.
2. "Paperbacks In School: A Survey by Teachers of English," **Publisher's Weekly**, Vol. 176 (December 28, 1959), pp. 37-39.
3. Hanan Landau, "A Survey of Use of Paperback Pocket-Sized Books in New England Secondary Schools," (Masters Thesis, Boston University, 1960).
4. Vivienne Anderson, **Paperbacks in Education** (New York: Teachers College Press, 1966).
5. Max Bogart, **Paperbound Books in New Jersey Public Schools** (Trenton, New Jersey: Division of Curriculum and Instruction, State of New Jersey Department of Education, 1965).
6. "Study of Certain Factors Relevant to the Use of Mass Market Paperbacks in High School Literature Classes," (New York: Bureau of Educational Research, Board of Education of the City of New York, 1964).
7. Arthur Gordon, "Throw Out the Textbook," **American Education**, Vol. 3 (September, 1967), pp. 5-7.
8. Daniel N. Fader and Elton B. McNeil, **Hooked on Books: Program and Proof** (New York: Berkely Publishing, 1968).
9. **School Management**, Vol. 11, September, 1967 and August, 1967.

10. M. W. Gipe, "Hardbound vs. Paperbound Books," California Education, Vol. 1 (June 1964), pp. 13-14.
11. Irving N. Rothman, "The Paperback in the Classroom," Education Forum, Vol. 29 (January 1965), pp. 183-187.
12. Allen Berger, "Effectiveness of Four Methods of Increasing Reading Rate, Comprehension, and Flexibility." (Unpublished Doctoral dissertation, Syracuse University, 1966). (CRP No. OEC-1-6-068187-0845).

TWO APPROACHES TO LITERACY EDUCATION

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Literacy education has broadened considerably in the past decade and even the term is in the process of being discarded in favor of the broader term Adult Basic Education.[1] In the past, literacy education was primarily concerned with developing the three R's to approximately a fifth grade level. Today adult basic education concentrates on developing the basic skills to an eighth grade level and on providing the student with the core of knowledge needed for vocational training and effective citizenship. It is also greatly concerned with ego development and attitude change. In line with the expanded curriculum of literacy education, two developmental projects were undertaken by the Florida State University Fundamental Education Materials Center. One was the development and partial testing of a Computer Assisted Instruction Pre-Vocational Literacy Program and the other was the development of a series of literacy kits.

Computer Assisted Instruction is based upon Skinner's concept of reinforcement as applied to human learning in the recognized form of programmed instruction. Programmed instruction has been shown to be an effective pedagogical tool in many circumstances.[2] The use of a digital computer to store each step of the instruction permits each student to be presented with only the number and sequence of steps or frames he must complete in order to learn. Immediately after the student responds, he is presented with a new frame. Each frame contains knowledge of results, new information, and a new question. If the response was correct, the new information progresses in the sequence toward the end of the program. If the response was incorrect, the student enters a branch of the program, and the new information is on the same topic as the last frame. This procedure attempts to allow any student all of the explanation he needs to enable his responding correctly without his receiving more explanation than he requires for obtaining an understanding of the material.

The steps may be small presenting little information before each response or large presenting larger amounts of information before each response. The CAI program in reading developed into a mixture of

small and large step frames—the programming unit of instruction—and was thoroughly branched. Branching is one method of determination of the sequence of frames; the sequence is pass-fail-error determined and is the antithesis of the linear program in which the sequence is fixed. Since the FSU program was written for research, it was written to include the maximum usage of audio-visual aids that the IBM 1440 system could be programmed to handle; or the audio-visuals could be turned off and the complete program was operational as a purely keyboard function. At the time, only a slide projector and a tape recorder could be operated by the computer.

Designed to teach reading from grade levels two through seven for pre-vocational literacy, the program included a sequential review and development of reading skills from level one, which was reviewed, through 7.9. Short, vocationally oriented articles were developed, and unfamiliar words used in these articles were taught through various methods of word attack. The branching programming used was, contrary to that often found, extensive enough to allow the student to receive as much instruction as he needed to learn each word. The instructional period for any word was limited only by the length of time it took the student to learn it. The student was required to demonstrate that he knew the word or more instruction would be given. However, there was an exit from the instruction at every frame. For example, if the student had a flash of insight while learning one syllable of a word, he had only to correctly type the entire word to be released from the branch that provided instruction of that word and to begin the next step of the program.

After demonstrating knowledge of the words to be used, each student was presented with an article of carefully controlled readability.[3] He read the article, signaling the computer when he had completed it, and was presented questions meant to teach comprehension—both factual recall and inference.

If a comprehension question was incorrectly answered, instruction was then offered, the section of the article from which the question was drawn was again presented, and the student was given an opportunity to correct his answer. If he incorrectly answered the question, instruction was again offered in line with the error he was making.

Each section of the program was followed by a test. Again, after each item missed, instruction was offered pinpointed at the error made.

By instructing after each error, the test also served as a complete review, limited only by the amount of review instruction each student needed. The student could enter the next section of the program with full confidence, both on his part and on the part of the pedagogue, that all necessary prior knowledge was, in fact, manifest. This was of great benefit to students who would have entered the program somewhere other than at the beginning. They could be branched into the earlier sections of the program at any time they did not demonstrate a knowledge of any material necessary for further instruction.

This project was originally conceived as having a two year duration. The first year was to be spent writing the program. The second year was to be spent in student-trial and revision. In line with that plan the first year was spent in writing the program, but student-trial and revision of segments of much of the program was also completed. However, at the end of the first year, due to lack of funds the project was discontinued. Despite the ending of the project before the controlled research half was undertaken, two things were learned. First, CAI is a teaching method that is acceptable to functionally illiterate adults and even the more abstract skills such as inferential reading can be taught through this medium. But the comparative effectiveness of CAI and other approaches with functional illiterates has yet to be determined.

Second, the computer used (1440) was not satisfactory. The audio-visual functions of the tape recorder and slide projector were not highly reliable, and the 1440 did not have enough easy access storage capacity for programs of the extent necessary to teach a wide range of students.

The second project carried on at the Florida State University Fundamental Education Materials Center was the development and field testing of what has been called literacy kits. In essence, these are packages of reading instructional materials. They are packaged as individual lessons, rather than being bound. This permits every student in a class to use that segment of the material in which he has an interest and for which he has developed the ability. The kits stress the "reading to learn" behaviors and use such content as civil responsibilities and privileges, basic science concepts, health and sanitation, and occupational orientation.

The literacy kits are in some ways similar to the CAI program. The content of the articles is similar and the designs both allow for maximum flexibility and individualization of instruction. Mathematics, although a segment of the CAI program, is not included in the present kits but may be developed in future kits.

The present kits go from readability grade levels 1.75 through 12. Each contains approximately 80 lesson booklets. Kit A covers readability levels 1.75 through 3.9. Kit B covers readability levels 4.0 through 6.9. Kit C now being completed will cover readability levels 7.0 and up. The first two Kits have been field tested and revised while the last kit has yet to be field tested.

In the field testing, the first question we sought to answer was, "What do teachers actually involved in literacy education think of the material?" To answer this question, several hundred teachers were asked to evaluate the kits and then to compare them with other materials used in Adult Basic Education classes. Nearly all rated the kits highly, and compared them very favorably with the other most popular Adult Basic Education materials.

The next question we sought to answer was, "What do teachers who have used the kits with adult basic education students think of them?" To answer this question kits were given to fifteen teachers who used them as the core of their program. They were asked to rate the kits. Once more, the ratings were highly favorable. It appears that the kit materials were attuned to the interests of the adolescents and adults being taught.

The next question was, "Does the use of the kits as a core of the reading program result in higher reading achievement than when other materials are used as the core?" To answer this question, an extensive field test was made during the Florida Migrant and Seasonal Workers Project. All classes were held for a total of 420 hours of instruction, an equivalent amount of time was used for reading instruction in both the experimental and control classes.

The experimental and control samples were drawn from these populations as follows:

1. At least one control class was drawn from each county from which experimental data was drawn.

2. Foreign born students who were learning to read a new language were excluded.

3. All pre- and post-test data on the subject was required to be complete. The "Word Recognition" and "Reading Comprehension" sections of the **Adult Basic Education Student Survey** by E. Rasof and M. C. Neff were used.[4]

4. Scores initially above the difficulty level of the kits were excluded.

The entire experimental population was drawn as a sample. The sample from the control population was drawn and invalid test scores were discarded.

The data was analyzed using t-test comparisons of average grade level equivalents on pre-test and post-test for both the word recognition and reading comprehension. The control groups gained less than one-half grade level in word recognition while the experimental group gained over one grade level. Both the control and experimental groups gained over one grade level in comprehension.[5]

It would appear from the data that the kits used in the experimental classes teach word recognition better than the traditional materials that were used, while teaching reading comprehension about as well.

From the results it was hypothesized that some reasons why the experimental group did not exceed the control group in improvement in comprehension were 1. weaknesses in format, 2. the need for more booklets at each level, and 3. the need for better comprehension exercises. Since the lessons concerned with critical thinking were well received, five more have been added at each readability level and a new format has been designed. The results of our testing of the CAI program had indicated that programmed instruction, in restrained amounts, is acceptable to these students so some programmed instruction was incorporated into the kits.

Finally, it was no surprise to find that the kit approach is not the best approach for all students and that when used as the core of the reading program it must be supplemented with other materials.

The two projects taught us several things. One, writing a program for CAI is an effective way of improving the writer's teaching skills. Two, practical use of CAI for student instruction on a large scale basis is years away, but the use of CAI to find out more about how students learn and about their rates of learning is most valuable. Three, field testing of literacy materials prior to final publication is necessary. The format of material may appear simple to the developer, but may cause confusion among the teachers and students. Questions designed to develop comprehension may be incomprehensible to the student. Four, again it has been found that no set of materials or methods is best for all students.

Bibliographical References

1. E. W. Brice, "Undereducation in Our American Society," **Illinois Education Association Journal**, (May, 1963), pp. 387-389. E. W. Brice, et al., "A Review and Appraisal of Existing Instructional Materials for Adult Basic Education Programs," **Basic Education for the Disadvantaged Adult: Theory and Practice**. Edited by P. W. Lanning and W. S. Manny (Boston: Houghton Mifflin Company, 1966), pp. 327-336.
2. L. M. Stolurow, **Teaching By Machine** (U. S. Department of Health, Education, and Welfare, 1961), Document No. OE-34010. J. E. Coulson, **Programmed Learning and Computer-Based Instruction** (New York: John Wiley and Sons, 1962), pp. 3-133 passim.
3. George R. Klare, **The Measurement of Readability** (Ames, Iowa: Iowa State University Press, 1963), pp. 1-190 passim.
4. E. Rasof and M. C. Neff, **Adult Basic Education Student Survey** (Chicago: Follett Publishing Company, 1967).
5. E. H. Smith and R. H. Geeslin, **A Pilot Study to Develop and Determine the Feasibility of a Packaged Materials Program for Teaching Reading and the General Development Area of Adult Basic Education** (Tallahassee, Florida: By the Authors, November, 1967), Office of Education Grant No. OEC-2-7-068657-1651, pp. 1-73 passim.

EFFECTIVE PRE-SERVICE EDUCATION

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As writers from a later period evaluate this era of education in America, I believe that they will certainly make note of the strange situation that exists. First, much discussion is taking place over the dramatic changes in our public school systems. In so far as school architecture and educational programs are concerned there have been countless exhibits of substantial change. In the area of education media and teaching materials, hardware and software, significant accomplishments have been achieved. Nearly everywhere in education discussion is centered on the one word—change. Much thought is going toward the development of a more effective program for teacher preparation.

At the California State College we began an evaluation of our pre-service program in teacher education in 1965. We examined our program with the hopes of strengthening our weak areas. In order to offer the best pre-service program possible we developed a Professional Trimester plan. The chief purpose of our Professional Trimester was to prepare the finest elementary teacher possible. To accomplish this we needed to do certain things.

We grouped all our elementary methods courses in a block of sixteen credit hours. We feel there is nothing bad about the word "methods." We do want them to be effective, however. The student takes this block of course work prior to the student teaching experience. This encourages the student to complete the pre-requisites for the methods courses such as psychology of learning and human growth and development.

While the student is in this block of course work he is asked to spend a certain peroid of time working with a Laboratory School Teacher. Each of his experiences here is at different grade levels so he may see the continuity in the learning process as well as the functioning of the child as a learner. Students report that this is the most valuable experience for them.

The student has opportunity to observe the principles of his methods course in practice. The laboratory school teachers work in close harmony with the methods course teachers. Off campus field trips are scheduled to offer the student varied views of the teaching profession. Also, recognized leaders in the field are invited on campus for the students to meet.

The students now have an opportunity to identify with a department. Its spirit and enthusiasm seems to be infectious. Students develop some pride in the program which they are following. This is really a benefit which we failed to consider.

The entire pre-professional experience—course work and participation—is capped with the student teaching experience. As a result of the practice teaching experience the college supervisor, the student teaching director as well as the student evaluate the teaching experience. From their trusted judgment the student is directed to return to the college for his final trimester and to complete an elective course prescribed for him as an attempt to eliminate any weaknesses.

Since we have had opportunities to direct this program in pre-service education for a period of three years, an attempt to evaluate the program as we have it today was conducted. This was completed through a questionnaire study of the values and objectives of each class in the block in relation to the feelings of the student toward his preparation for teaching. The results of the questionnaire were compared with the comparable group which did not have the aforementioned block of course work. In most areas, and in the teaching of reading in particular, the students reported that they were better prepared for the teaching experience.

Let us not be accused of losing sight of our chief objective—well prepared teachers of reading. In order to make the greatest impact on the prospective teacher we need to believe that the single course for the preparation of the professional must be plannd to be as thorough and comprehensive as possible. We need to remember that for some it will be the only contact with reading that they receive in a formal course.

Some of the essentials for developing an effective course in the teaching of reading are the following. First, we need involvement of the students with children. This can be accomplished in several ways. One way to get the students to see youngsters in a learning situation is to visit classrooms and observe master teachers. Another way would be to have the children visit the classroom for a demonstration of a teaching principle. Films, tape recordings and the videocorder can also simulate the learning environment and provide realism for teaching. Second, students need to thoroughly understand the reading skills. Third, students need to be made aware of the source of professional information available to the teacher—primarily an opportunity to read the professional journals. Better still, they should be encouraged to join the International Reading Association as a student member. Fourth, students need the opportunity to practice teaching reading and to discuss and evaluate certain procedures before the class. And last, a chance to become acquainted with teaching materials and apparatus used by the teacher of reading should be provided.

Although much more discussion is given to the demand, production and endless shortage of particular teachers let us keep this in mind: quality of their preparation. In the highly responsible vocation of teaching, quality is in every sense as important as quantity. To specify all of the qualities of professional leadership desired in each new teacher, however, is more difficult than to specify the number of new teachers needed. Hence, it becomes essential to examine unceasingly those educational conditions and processes which it is hoped during college years will bring out and develop the requisite qualities.

My own wish for those who wish to write of us some time in the future is that they will include a quotation which I have about my office. It reads, "Any teacher who chooses to make a difference will make one."

THE CULTURALLY DISADVANTAGED READER'S CONCEPT OF READING

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One of the many problems facing educators today is the inability of present reading programs to meet the needs of the culturally disadvantaged child. Researchers in the field of reading are constantly seeking new methods and materials to meet the growing needs of these children. Recent research indicates that early and continuous educational stimulation is feasible in meeting the needs of these children. Present emphasis in the area of early stimulation has caused some researchers to investigate the reading concepts of first grade and preschool children; however, there is a paucity of research dealing with the reading concepts of culturally deprived school children.

Edwards was one of the first investigators to study the reading concepts of school children. His preliminary investigation supported the hypothesis that a relationship exists, independent of intelligence, between a child's concept of reading and his achievement in reading. The results of his major investigation, however, did not support this point of view.[1]

Denny and Weintraub investigated the reading concepts held by first graders and the possible use of these concepts as introspective and retrospective techniques to predict potential reading failures.[2] Later investigations by Denny and Weintraub indicated: that one-fourth of the children studied could not verbalize an intelligible idea of the reading act. one-fourth of the children could not express a meaningful purpose for learning to read, and one-fourth of the children had no idea of how they were going to learn to read.[3]

In an early study, Mason investigated the reading concepts held by three-, four-, and five-year-old children. According to this report, many of the preschool children studied already believed they could read. It also appeared that the negativism showed toward reading by many preschool children was being learned at a very early age.[4] In a further investigation of readers' concepts, Mason and Blanton found that most three-, four-, and five-year-old children could only give vague or irrelevant reasons for learning to read.[5]

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Many erroneous concepts of reading appear to be learned by children in school. Apparently many children sacrifice the correct learning of concepts for social approval and acceptance from their teacher and peers. When wrong concepts are learned, ineffective reading habits and retardation in reading achievement result. The best prevention of incorrect reading concepts results when the classroom teacher discusses the purposes of reading class activities directly with the children. The teacher should also provide the children with an opportunity to discuss their understanding of reading and reading activities. This method should be used with culturally disadvantaged children, who, according to many research findings, are more concrete in intellectual functioning and exhibit marked difficulty in the transition from concrete to more abstract modes of thought.

Researchers might delve into the area of reading concepts of disadvantaged children to find supporting evidence for changes in reading programs and teaching methods. A research gap in this area does exist. The purpose of this research was to identify and quantify the concepts of culturally deprived children toward reading.

The subjects were fifty-three culturally disadvantaged third, fourth, fifth, and sixth grade Negro students enrolled in remedial reading classes in a Northeastern Georgia county. The subjects were considered remedial readers if there was a disparity of two years between reading level and grade level as determined by an informal reading inventory. A three-item multiple choice reading concept inventory was administered to the subjects by their remedial reading teacher. The subjects were administered the test in groups of three.

Results

Table 1 represents the percentages of subjects responding to each choice of the reading concept inventory.

PERCENT OF CHILDREN RESPONDING TO EACH CHOICE OF THE READING CONCEPT INVENTORY

	Question	Percent Responding
	A good reader:	
1	reads so that it sounds like he is talking	9
	reads to make his teacher happy	49
	reads because he wants to know the story	42
2	reads as fast as he can	26
	reads slowly	2
	reads slow enough to remember	72
3	reads moving his head	2
	reads moving his lips	58
	reads moving his eyes	40
4	knows many words	23
	knows some words	16
	knows all the words	61
5	reads with the same voice	30
	changes his voice as he reads	23
	reads loudly	47

	Question	Percent Responding
	A good reader:	
6	reads so that others will think he is smart	19
	reads for fun	4
	reads for the teacher	77
7	knows how to stand straight and hold the book	42
	reads prettily	5
	reads because he likes stories	53
8	asks the teacher for help	37
	skips words he does not know	11
	does not need help	52
9	reads everyday	67
	reads only at school	16
	does not have to read much	17
10	reads all the time	37
	reads just in school	16
	reads when he likes	47
11	guesses the hard words as he reads	28
	learns the hard words first	58
	learns the hard words later	14

	Question	Percent Responding
	A good reader	
12	reads quietly	21
	says the words to himself	58
	points with his finger as he reads	21
13	learned how to read at home	19
	learned how to read in the first grade	58
	could always read well	23
14	can sound out all the words	9
	remembers what he reads	58
	never misses a word	33
15	stops sometimes when he is reading	33
	knows how to sound out all the words	33
	does not have to stop when he reads	34
16	Do you like to have stories read to you?	
	Yes	91
	I don't know	0
	No	9
17	Which had you rather do: hear a story or look at a picture book?	

Question		Percent Responding
	Hear a story	74
	I don't know	2
	Look at a picture book	24
18	Which had you rather do: hear a story or read the story yourself?	
	Hear a story	49
	I don't know	0
	Read the story myself	51
19	Should everyone learn how to read?	
	Yes	79
	I don't know	0
	No	21
20	Why do you (or don't you) think everyone should learn how to read?	
	Learning to read is personally or socially desireable	33
	Learning to read is a duty or a responsibility	7
	Indefinite or I don't know	60

Reading to gain social approval and acceptance

Responses to questions one and six indicate that many of the children see reading as a way of making the teacher happy and seeking approval by the teacher. Forty-nine percent thought a good reader reads to make the teacher happy. Seventy-seven percent saw reading as an act performed for the teacher.

Questions five and seven show that reading is perceived as an oral process. Forty-seven percent thought a good reader read loudly, and forty-two percent thought a good reader knew how to stand straight and hold the book.

Oral reading should be stressed as a tool for communication. Examination of questions four, eight, and fourteen, however, reveal the way many children may well see oral reading. Sixty-one percent thought a good reader knew all the words, fifty-two percent thought a good reader did not need help, and thirty-three percent thought a good reader never missed a word. It would seem that many children consider oral reading as a method of judgment and evaluation used by the teacher. Some children may also see asking the teacher for help as submitting to criticism and condemnation from the teacher and his peers.

Lip movement: Habit or concept?

Surprisingly, responses to question three indicate that many remedial readers may actually believe that a good reader reads by moving his lips. Procedures for eliminating lip movement and vocalization may well begin with ascertaining if the child has developed a poor habit or actually believes a good reader moves his lips as he reads.

The reading lesson

In question eleven, fifty-eight percent of the children indicated that a good reader learns the hard words first. This response may demonstrate the extent to which the reading lesson is teacher oriented. These children were probably taught the hard words first. There is also an indication that the teacher may provide the correct response before the child is allowed to be successful or make a response.

Reading and inner speech

Responses to question twelve tend to support the principle of inner speech. Fifty-eight percent of the children believed that a good reader said the words to himself. Twenty-one percent of the children also believed that a good reader pointed with his finger as he read.

Reading vs listening

In response to questions sixteen and seventeen, ninety-one percent of the children said they liked to have stories read to them, and forty-nine percent indicated that they would rather have a story read to them than read the story themselves. These responses are similar to the responses of the preschool children studied by Mason and Blanton. Children indicating that they would rather have a story read to them may also suggest that the material they have been using is too difficult for them; therefore, they feel the need of having material read to them.

Reading as a social necessity

The responses to questions nineteen and twenty give some insight into how to motivate the culturally disadvantaged remedial reader. The majority of the children felt that everyone should learn to read. Sixty percent of the responses to question twenty were responses such as: "I need to learn to read so people won't cheat me." "I need to learn to read to pay the bills." "I need to learn to read to get a good job." These reasons for learning to read give some insight into the practical consequences of learning to read and the materials that should be developed to motivate the culturally disadvantaged child.

Summary and implications

The inaccuracies of the reading concepts of culturally deprived remedial readers, as reported in this study, seem to be profound. Many incorrectly learned reading concepts seem to be related to: the need for social approval and acceptance, oral reading, concepts believed to be habits, reading instruction. and the level of instructional materials. The social necessity for learning to read may indicate materials and methods of motivation that may be used with the culturally disadvantaged child.

This preliminary study offers many implications for further research. A diagnostic instrument that can measure reading concepts is warranted since the reading behavior of some children may not be habit alone. Additional study of the differences in reading concepts related to sex, race, and socio-economic level also appears necessary.

Bibliographical References

1. Donald L. Edwards. **The Relation of Concept of Reading to Intelligence and Reading Achievement of Fifth Grade Children.** Dissertation Abstracts, XXIII, No. 5, 1962.

2. Terry P. Denny and Samuel P. Weintraub, "Exploring First Graders' Concepts of Reading," **Reading Teacher**, 16, (March 1963).
3. Samuel Weintraub and Terry P. Denny, "What Do Beginning First-Graders Say About Reading?" **Childhood Education**, 4, (February 1965). "First Graders' Responses to Three Questions About Reading," **The Elementary School Journal**, 66, (May 1966).
4. George E. Mason, "Preschoolers' Concepts of Reading," **The Reading Teacher**, 21, (November 1967).
5. George E. Mason and William E. Blanton, "Preschoolers Views on Learning to Read," unpublished, 1968.

BEHAVIORAL RESEARCH IN READING—IMPLICIT SPEECH

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Behaviorism is a term which grew out of the work of J. B. Watson and his dissatisfaction with the introspective methods of psychological research. Much of his work was done with laboratory rats and small children, neither being very reliable in communicating their conscious experiences. As a result, he adamantly championed an approach to psychology, behaviorism, which stressed the behavioral or observable aspects.

Learning theorists since the time of Watson have modified to some extent the Behaviorist orientation. This Neo-Behaviorism, with the influence of such people as Skinner and Mowrer, is being felt more and more in not only psychological research but in classroom practices. We used to educate through fear and punishment; we are now much more interested in using praise and reward. Positive reinforcement, however, requires that the student do something or respond in an overt way that permits observation and evaluation. If the behavior is judged appropriate in terms of desired goals it will be reinforced and strengthened.

Witness of late the increased interest among educators in insisting upon pupil reaction that is observable. Once upon a time we might have started a class with such objectives as "learn the eight new vocabulary words" or "know the causes of the Civil War." Perhaps we are becoming more sophisticated. A warm feeling in the teacher's stomach at the end of a period is no longer accepted as evidence of learning. It might have been an excellent class with lots of real learning or it could have been the chili she had for lunch.

Skinner's rather liberal definition of Behaviorism has undoubtedly given rise to some of the basic research now being conducted in education and cognate areas. He states:

> Behaviorism, with an accent on the last syllable, is not the scientific study of behavior but a philosophy of science concerned with the subject matter and methods of psychology. If psychology is a science of mental life—of the mind, of conscience experience—then it must develop and defend a special methodology, which it has not yet done successfully. If it is, on the other hand, a science of the behavior of organisms, human or otherwise, then it is a part of biology, a natural science for which tested and highly successful methods are available. The basic issue is not the nature of the stuff of which the world is made or whether it is made of one stuff or two but rather the dimensions of the things studied by psychology and the methods relevant to them.[1]

Implicit in the definition is the relevance of any scientific study of the mental life of an individual to Behavorism. Measurement of mental activities of an organism or individual in biological, neurological and physiological studies are relevant to Behaviorism.

Behavioral research in reading has been done in such areas as eye movement behavior; the effect of drugs on mental activity and reading; student physiological response to the metaphor in reading; and electromyographic studies on subvocalization. We shall concentrate our attention during the remainder of this presentation to some of the research and literature relevant to subvocalization.

The role that implicit speech, variously known as subvocalization, inner speech, innervocalization, silent speech and lip reading, plays in reading and other mental activity is questionable. Researchers have been trying to determine for nearly a century the effect implicit speech (ranging from extremely overt lip movement behavior that is audible to motor-speech phenomena measurable only through electromyography) has on silent reading. Little evidence has accrued which can provide answers to such questions as whether observable lip movement behavior should be encouraged or discouraged among school children. In spite of this, many primary grade teachers persist in having children clench pencils or fingers between teeth or wear tape to extinguish such behavior.

The phenomenon originated as a subject of interest and discussion in connection with thinking. The **Dictionary of Education,** as a part of its definition of Behaviorism uses the example of thinking as subvocal talking. Early investigators, relying upon introspection, arrived at divergent conclusions ranging from denial of accompanying speech-motor activity with thinking to the impossibility of thinking without such accompanying activity.

Early experimental studies on implicit speech began toward the end of the nineteenth century. Curtis[2] placed a tambour on the larynx of his experimental subjects and recorded its movements. Silent reading produced more movement than any other mental activity. Only actual whispering produced more. Four of the subjects manifested no movement at all but this is likely due to the inadequacies of the measuring instrument.

In 1902 Courten[3] had his subjects perform on the same activities as those in the Curtis study. The difference was in the placing of a rubber bulb on the tongue and recording the movements. The results he obtained paralleled those of Curtis.

Wyczoikowska[4] reports a study in which only tongue movements were recorded. Her subjects were instructed to solve certain mental problems or simply to think—not say—certain phrases over and over again. She tenuously concluded that every act of thought was accompanied by movements of the tongue.

Reed[5] attempted to solve the problem by recording tongue movements with a specially constructed instrument. It was a drum affair placed in the mouth and designed to detect slight changes in air pressure. He obtained five curves, namely: breathing curve, silent reading curve, writing curve, whispering curve, and an oral reading curve. Recordings were also made during mental counting and mathematical manipulation. Reed concluded that implicit speech is an individual peculiarity of certain individuals. He went even further in stating that implicit speech has no important function in rate or comprehension of reading.

Some nine years later Scheck[6] used a small balloon placed in the mouth with signals being recorded on a kymograph drum. He concluded that involuntary tongue movements accompany, if not all, at least most, thought. Mental stress seems to heighten tongue movement activity with variation as to rate and amount.

In the same year, Thorson[7] reviewed the previous research on implicit speech and found it wanting. Briefly she concluded:

1. Rubber bulb apparatus used in the mouth is unsatisfactory since it reacts to all oral cavity activity or movement.
2. All tongue movements had been interpreted as manifestations of implicit speech.
3. Nearly all of the apparatus used in previous studies likely encouraged implicit speech.
4. Tongue movements are not always present with implicit speech or mental activity.

As a result of Torson's criticism of the inadequacies of the measuring instruments and techniques, little was done during the next thirty-five years. It was not until 1960 when Ake Edfelt[8] published his **Silent Speech and Silent Reading** that real progress was made. His study, done with the use of electromyography—literally the electric writing of the muscles—was the only comprehensive, adequately instrumented and controlled study of the previous twenty years.

Electromyography is premised on the fact that a muscle has a certain electric potential, i.e., a minute electric charge and that this electric charge will increase as muscles contract. This electric action potential can be measured by either surface electrodes appropriately placed on the skin or needle electrodes placed inside the muscle.

One of the earlier studies in which muscular electric action potential was recorded was done by Jacobson.[9] He inserted five platinum iridium wires into the muscles of the tongue or lower lip. His subjects were instructed to imagine counting from one upward, to imagine telling something to a friend or to think of abstract subjects such as democracy, eternity or Ohm's law or of the meaning of incongruous or everlasting. The subjects were also trained in differential relaxation or the ability to consciously relax individual muscles or groups of muscles. The recordings of the muscles of the tongue or lower lip of the subjects indicated almost no activity when they were told to relax. When the subjects were told to perform one of the previously mentioned tasks, activity was noted. From this study and others it can be concluded that an increase in electric activity in the speech musculature occurs during certain types of mental activity.

Edfelt's study, previously mentioned, was conducted at the University of Stockholm and involved eighty-four subjects. Each of the students was given an intelligence test, a test of reading rate, reading comprehension and vocabulary. On the basis of these tests the subjects were grouped as good, medium, and poor readers. They were tested in a Faraday enclosure, reading easy then hard, and clear then blurred material. Benzocaine lozenges were used as a topical anesthetic prior to placing needle electrodes in the mylohyoid muscle of the tongue. The results of the study are as follows:

1. Good readers engage in less silent speech than do poor readers.
2. The reading of an easy text results in less silent speech than does the reading of a difficult one.
3. The reading of a clear text results in less silent speech than does the reading of a blurred one.

A three year study directed by Dr. Donald Cleland of the University of Pittsburgh at Leech Farm Veterans Hospital and sponsored by the United States Office of Education promises some interesting data. Like much of the research cited in this paper, however, it is likely to stimulate even more interest and study.

Bibliographical References

1. T. W. Wann (Ed), **Behaviorism and Phenomenology.** (Chicago: University of Chicago Press, 1964), p. 79.
2. H. S. Curtis, "Automatic Movements of Larynx." **American Journal of Psychology,** 11:237-239, (1900).
3. H. C. Courten, "Involuntary Movements of the Tongue." **Yale Psychological Studies,** 10:93-95, (1902).
4. Anna Wyczoikowska, "Theoretical and Experimental Studies in the Mechanism of Speech." **Psychological Review,** 20: 448-458, (1913).
5. H. B. Reed, "The Existence and Function of Inner Speech in Thought Process." **Journal of Experimental Psychology,** 1: 365-392, (1916).
6. M. Sheck, "Involuntary Tongue Movements Under Varying Stimuli." **Proceedings of the Iowa Academy of Science,** 32: 385-391, (1925).
7. Agnes H. Thorson, "The Relation of Tongue Movements to Internal Speech." **Journal of Experimental Psychology,** 8: 1-32, (1925).
8. Ake Edfelt, **Silent Speech and Silent Reading** (Chicago: University of Chicago Press, 1960).
9. Edmund Jacobsen, **Progressive Relaxation** (Chicago: University of Chicago Press, 1956).

THE IMPORTANCE OF READING INSTRUCTION IN THE COMPREHENSIVE JUNIOR COLLEGE

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One needs only to refer to the **1968 Directory of American Association of Junior Colleges** in which it states that in 1961 there were in the United States 405 public junior colleges with a total enrollment of 644,968. In 1967 there were in the United States 641 public junior colleges with an enrollment of 1,528,220 students. Within a period of six years this represents a 62% increase in the number of colleges and an increase of 136.9% in enrollment. Based on enrollment projections made by the American Association of Junior Colleges, we can expect an enrollment of 2,940,000 in 1972. This represents an increase of 1,411.780 students beyond what we know for this school year or an increase of 92.4%.[1]

The philosophy of the comprehensive junior college is rather well defined throughout the United States; however it is recognized that there still exist junior colleges which have not adopted the philosophy and objectives or implemented procedures to which I will refer. In 1965 the State of Illinois passed a **Public Junior College Act.** There has been a tremendous growth in the development of new junior colleges within this state. Illinois now has 34 public junior colleges with 42 major attendance centers. The enrollment in these institutions for the 1967-68 school year is 52,846 students for an increase in enrollment of 21.9%.[2]

The projected enrollment for Illinois Public Junior Colleges for the year 1980 is 147,873 or almost a 280% increase.[3] If this estimated increase of almost 100,000 students materializes. and to this date, practically all of our projections have been too conservative, the need for trained faculty almost exceeds our imagination. The purpose in prefacing these remarks with these figures is to make sure that one is acquainted with the magnitude of the topic being discussed.

Money spent on buildings, instructional materials and equipment should be allotted on the basis that it will support a curriculum within the philosophy of this unusual institution. One could well ask, "Where does reading fit into this type of college? Is the need different from other types of institutions?"

Basically, four types of reading service should be offered in the comprehensive junior college. These are all of relatively equal importance. (1) The teaching of developmental reading to assist a student in removing academic deficiencies. (2) The teaching of speed reading to either regularly enrolled college students or as part of the adult education program of the junior college. (3) The teaching of reading in a basic literacy program for adults. This is of particular importance to those junior colleges located in or nearby metropolitan cities or in depressed areas of the country. (4) The role of the reading instructor as a counselor, diagnostic or clinical person to assist an institution in determining the cause of student failure.

Concerning the position of reading in the guidance program, are you familiar with one of the more recent efforts of the College Entrance Examination Board? In a recent bulletin issued by the Board's Regional Office in Evanston, Illinois, is this statement:

> **The College Board has undertaken an experimental program aimed at the development of tests and services that will support improved guidance and placement of students at entrance to junior colleges. This has taken the form of a cooperative project with 40 junior colleges participating actively in shaping a guidance program to meet most effectively the varying needs of students in institutions. . . .**
> **Basic Reading Ability:** This test includes brief passages (300-500 words) with several related questions covering a variety of reading skills. The principal emphasis is on straightforward comprehension. This subject matter for the passages is varied and reflects interests and reading materials of a nonacademically oriented population. The test is centered at a difficulty level which will support identification of persons for remedial programs, rather than throughout the whole range of proficiency.[4]

What is in the curriculum of the comprehensive junior college as defined by both institutions and by law that supplements the importance of this area of instruction? The **Public Junior College Act** for the State of Illinois mandates that the curriculum of the comprehensive junior college include courses in liberal arts and sciences, adult education courses, and occupational semi-technical courses. It further specifies in Section 3-17:

> A Class I junior college district shall admit all students who qualify to complete any one of their programs including general education, transfer, occupational, technical and terminal as long as space affecting the instruction is available. After entry, the college shall counsel and distribute the students among its programs according to their interest and abilities. Students allowed entry in college transfer programs must have ability in competence similar to that possessed by students admitted to state universities for similar programs. Entry level competence to such college transfer programs may be achieved through successful completion of other preparatory courses offered by the college.[5]

One of the primary differences between an institution of higher education and the public comprehensive junior college is that institutions of higher education usually have restricted enrollment, but once the student is admitted to the college, he has open admission to curricula. The junior college has open door admission to the college but has restricted admission to curricula. No student should enter a curriculum until the institution has determined that he has the ability to pursue that curriculum successfully. The teaching of Developmental Reading in the junior college to assist a student in improving his reading ability is just as important as the teaching of Fundamentals of English to help a student remove an academic deficiency in English.

To you in this meeting, the discipline you represent, and your responsibility in providing leadership to improve techniques and train personnel in numbers so the disadvantage of ability to read is eliminated for many individuals is a challenge of magnitude. Administrators and faculty at all levels of higher education should become self-renewed, examine new trends and problems around them, become currently informed, and place their efforts into proper perspective with the problems facing many individuals.

Educational and governmental leaders are agreed that institutions of higher education, and especially junior colleges, must relate themselves in meaningful and constructive ways to the community which contains them. This will include the urban community, inner city, or combinations of both. The public comprehensive junior college cannot and must not display an apathy toward remedial instruction for those in need.

Educators are noted for using peculiar terms to describe parts of the educational program. Many junior colleges are now using a term called General Studies to represent those courses designed as preparatory, remedial in nature or for a general extension of knowledge. In the State of Illinois a set of **Standards and Criteria for the Evaluation and Recognition of Public Junior Colleges** has been developed. This recognition process is necessary for state reimbursement of funds. Quoting from that document:

> A student should be counseled and placed in the General Studies program after close analysis of his high school transcript, test scores, results of entrance examinations and other data available for his 'achievement level.[6]

A typical course that an Illinois public junior college, Lake Land College, has initiated for this very purpose to be included within its General Studies program is called Reading Fundamentals.

> A course designed to improve basic reading abilities through developmental exercises for increasing reading range and comprehension. Included is the application of techniques for improving skill in listening, note taking, and study type reading. A variety of reading materials at different levels of difficulty would be used along with exercises for improving visual perception efficiency.

Lake Land College is a new junior college, opening its doors to students for the first time in September, 1967. The college immediately recognized that a number of its studies were in need of reading improvement; therefore this course was developed and offered at the winter quarter of its first year of operation. This comprehensive junior college places high importance on reading instruction and plans to add Speed-Reading for both regular students and adults in its second year of operation.

Black Hawk College, established as a two-year college in 1946 as an extension center of the University of Illinois, became a junior college in 1948. They have just developed a course in Reading Improvement in which approximately 15 hours during the semester is given to the reading laboratory situation. The State of Illinois will reimburse a college for this type of instruction at the same level it will reimburse for instruction for the most sophisticated college course. One of the primary reasons why more colleges have not implemented a good reading program is that trained staff is not available.

I would briefly describe an example of the reading program in a junior college that is somewhat different. Danville Junior College received a grant from the Illinois Department of Public Aid through an adult education act, to establish the Danville Junior College Adult Center. This center has a reading laboratory and equipment that was purchased through adult center funds. The students in the adult program include both Public Aid recipients and people not on Public Aid. Individualized instruction is found to be the most effective method of teaching disadvantaged adults. Materials and electronic equipment are available for all students. Many of the programs are geared to individual needs because irregular attendance caused by adult responsibilities is one of the biggest problems to combat in teaching these adults. This year Danville Junior College is conducting ten classes in reading skills on an experimental basis. The outcome of these courses will help to determine educational media and type of testing program to be used.

The Danville Junior College Reading Clinic has the following plans for the future: (1) Walk-in diagnostic reading and counseling services for all college and adult students. (2) Urging more students to enroll in courses in reading skills. (3) Provide for research and follow-up as to the effectiveness of the program.

Something should be said about the number of returning veterans from military service and the influence this could have upon the curriculum of the comprehensive junior college. I would bring to your attention some statistics from Illinois and I am sure that they reflect the current status in other states. Quoting from a news release from the Veterans Administration, "Illinois has this year 31,210 ex-servicemen studying or training in the state under the Post Korea GI Bill. An estimated 40% or more than 12,000 are in institutions of higher learning . . . Junior Colleges in the state accounted for 6,000 of the total number of veterans enrolled." This figure represented 50.7% of all returning veterans enrolled in junior colleges. With the tremendous increase in numbers of returning veterans coupled with the opening of several new junior colleges plus enlarged facilities at existing junior colleges, this educational effort will snowball in magnitude. Any experienced educator knows that there will continually be an increasing number of students who are weak in previous educational experiences, who have been removed from the formal classroom situation for a period of time, or who because of the GI Bill and availability of the public junior college, will be enrolled and in need of an opportunity to improve their reading skill.

The primary reason for citing these examples is to lay the foundation for two or three important points. I am sure that the teaching of developmental reading in the junior college requires as much preparation for the training of an instructor as for teaching the course elsewhere. But I visualize two or three additional factors that should be involved in the training of an instructor to teach reading in the junior college. 1. This person must become acquainted with the philosophy of the junior college and the breadth of its curricular offerings. He must be sympathetic and committed to helping students who have academic deficiencies as well as working with the more talented individuals. This could be accomplished through a course covering the philosophy of the comprehensive junior college. 2. I visualize the instructor of reading in the junior college more closely related with the guidance and counseling personnel and their services rather than with the academic faculty. I am not sure how instructors of reading will react to this comment but it would appear to an experienced administrator of junior colleges that the institution would want the reading instructor to assist the counselors in identifying students who have reading deficiencies. A portion of the reading instructor's time should be set aside so that students who were having difficulties in selected courses might be referred to this person and he in turn would have time to test and attempt to diagnose the student's weaknesses. Consequently, a reading instructor trained to work in the junior college should have a minimum of two or three courses in basic techniques of counseling and guidance, testing, advanced work in psychology, and other related courses in his academic preparation.

In examining educational specifications of the new junior colleges in Illinois, one notes that the learning resource center includes reading laboratories. What kind of current training is being provided for future instructors in the use of electronic equipment in developing the software to go with the hardware? Are there workshops to upgrade the knowledge of those now in the field? Are institutions providing courses that instructors in other areas might take to qualify them for part-time teaching of remedial of developmental reading?

No attempt here has been made to tell how courses in reading should be taught or curriculum developed. The purpose of this talk is to bring to your attention the new role of the reading instructor and new position of reading in the comprehensive junior college.

Bibliographical References

1. **1968 Directory**. Washington, D.C.: American Association of Junior Colleges, 1968.
2. **College Bulletin**. Vol. II, No. 5. Springfield, Illinois: Illinois Junior College Board, 1968.
3. Froehlich, G. J., **Enrollment in Institutions of Higher Learning in Illinois**. University of Illinois, Urbana: Bureau of Institutional Research, 1965.
4. College Entrance Examination Board. "Facts About Participating in the Comparative Guidance and Placement Program." Evanston, Illinois.
5. **Illinois Public Junior College Act**. Springfield, Illinois: Illinois Revised Statutes, 1967.
6. **Standards and Criteria for the Evaluation and Recognition of Public Junior Colleges**. Springfield, Illinois: Illinois Junior College Board, 1967.

A WRITE READING METHOD FOR SCIENTIFIC AND TECHNICAL STUDENTS

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Controversy permeates every nook and cranny of American life. At any bridge game, cocktail party, barbershop, pool parlor, or convention, it is no simple matter to avoid heated discussions about Vietnam, race riots, student power, gold, Bobby Kennedy. teacher strikes, open housing, heart transplants, DeGaulle, and mini-skirts. Even English departments on college campuses are not sacrosanct. Here battles rage between psychological, historical, formal, myth, and humanistic literary critics. There transformational, tagmemic, and stratificational linguists lash out at each other. And yonder are the teachers of writing, fighting over the importance of grammar, number of themes, usage, rhetoric, stylistics, and research papers. It would appear to most college English teachers that all is quiet on only one front—reading. But I suspect that here there is strife over the merits of the popular reading institutes, the use of programmed machines to teach reading, and the recommendations of Jeanne Chall's definitive study, **Learning to Read.** But whether there is war or peace in your ranks, let me introduce a spanking new theory from an allied field, not to foment dissension but to give you a new weapon in your battle to improve reading.

The allied field is rhetoric, which dates from the time of Plato. But it is a new or revised rhetoric, and certainly a new rhetorician that I speak of today. His name is Francis Christensen, his studies have been conducted at the University of Southern California, and his articles have appeared in several NCTE journals and were recently collected and published in paperback form.[1] His aim is to improve writing but his techniques are equally applicable to reading. What follows is a summary of his generative rhetoric of the paragraph and an application of it to the type of material used in our English course for technical and scientific students. It should be mentioned that these students have completed a year of freshman English. Formerly, most of them were majors in engineering; now the majority are business administration majors.

Christensen states that present definitions and descriptions of expository paragraphs are inadequate because seldom do people write according to the methods expounded in freshman English textbooks.

and rarely can paragraphs be found to illustrate their percepts. Specifically, Christensen points out that few paragraphs are formed along chronological, spatial, or logical patterns; instead, most are based on some combination of them. Furthermore, these methods of developing paragraphs do not describe solely what occurs within a paragraph. They represent patterns of development for any unit above a sentence, whether it be a book, report, essay, section, or paragraph. On two grounds—impracticality and inapplicability—Christensen faults our present methods of teaching and analyzing paragraphs.

From his inductive studies Christensen has developed four principles about paragraphs: (1) they are sequences of structurally related sentences formed by the addition of sentences to a topic sentence; (2) each added sentence proceeds in a particular direction of modification or movement; (3) the trend of these sentences is usually towards the concrete or specific; and (4) the more sentences added, the denser the texture of the paragraph.

The most important of these principles for the teaching of reading is the second. As Christensen states, "The failure to see the relation of each upcoming sentence to what has gone before is probably one source of the difficulty many people have in reading."[2] But more important than this, from a conceptual viewpoint of the paragraph, is Christensen's definition, not stated in terms of form (whatever lies between two indented sentences), nor in terms of content (a single idea), but in terms of structure (a sequence of structurally related sentences). Though it may be more convenient to conceive of a paragraph as falling between two indented sentences, it is a descriptive definition, not an operative one. Though it may be simpler to think of a paragraph as a single idea, it is far more accurate and functional to view a paragraph as a sequence of structurally related sentences, which depend upon, support, explicate, or provide details about the idea implicit in the topic sentence. This sentence nearly always appears first in the sequence and is developed, amplified, and commented upon by the following sentences. They are related to it in one of two ways: coordination or subordination. Coordinate sentences add emphasis or enumeration, seldom require connectives, and usually begin in parallel or identical ways, or have structures that are similar. Subordinate sentences clarify by providing depth or further details, frequently require connectives, and are not similar.

Let us examine several different types of paragraphs to illustrate Christensen's theories. In these examples, the number **one** designates the topic sentence, similar numbers indicate coordinate sentences, and higher numbers represent subordinate sentences.

Coordinate Sequence Paragraph

1 Today's student is no longer interested in the old lures of salary, pension and profit-sharing ideas alone.
2 He's looking for challenge and responsibility, too.
2 He wants the opportunity to help solve the great social issues of our time—ignorance, poverty, race relations, and a dozen others.
2 He's concerned about mankind rather than money, peace rather than profits, and souls rather than sales.
2 And he hopes to make this a better world. not only for his children but for all children.[3]

Note how each of the sentences marked **2** is similar in structure and function, how each serves to enumerate ways in which the student is interested in things other than the traditional lures of business, and how each is related directly to the first sentence and not to the preceding one.

In contrast, observe the way that the sentences are structurally related in the following paragraph:

Subordinate Sequence Paragraph

1 The crisis, predictably, stirred up a barrage of other proposals.
2 Chief among these was the demonetization of gold altogether, ending the commitment to buy or sell at any price.
3 The U.S. could then support the dollar as other countries defend their own currencies, by buying or selling it on the currency exchanges.
4 Gold would become only a commodity, worth whatever anyone wanted to pay for it.
5 The main objection to this plan was that it would raise more uncertainties than it would settle.[4]

In this paragraph, there is no parallelism, connectives are used (**among these, then, this plan**. plus the verbs **could . . . would . . . would**), and each sentence, although related to the first, is linked to it by the intermediate sentences and not directly as in the previous paragraph.

Paragraphs consisting of only coordinate or subordinate sequences are rare. More common are paragraphs composed of mixed sequences that are predominantly either coordinate or subordinate. The following mixed sequence illustrates how the coordinate sentences enumerate different points and how the subordinate ones clarify or add details.

Mixed Sequences — Based on Coordinate Sequence

1 Events are forcing Japan into playing an increasing role in Asia.
  2 Its exports are growing.
  2 Subcontracting extends Japanese influence beyond the borders of the country.
  2 A much larger foreign aid program is under way.
  2 Japan's self-confidence is growing.
  2 Its intellectual influence and the significance of its example are expanding.
  2 It sees itself increasingly playing a major part, at least in the Pacific Ocean.
    3 The "Pacific Concept" widely discussed in Japan, assigns to the country a key position as the mediator between the United States and the Soviet Union in the problems of the Pacific area.
      4 Inevitably, this places Japan, with the assistance of the Soviet Union and the United States, in the role of a counterweight to China.[5]

The author of this paragraph has not used parallelism in the coordinate sequence but he has relied on similar sentence structure. All sentences are simple, all follow the S - V - C pattern, and all except the last are free of subordinate phrases. The final two sentences in the paragraph relate to the first sentence only through the sentence immediately preceding each, and the sentence structure of each is different.

The following paragraph provides another example of a mixed sequence, but here it is based on subordination.

Mixed Sequence — Based on Subordinate Sequence

1 Although the well-publicized troubles of the cities are, God knows, bad enough, they are not so shocking as the still-almost-unknown troubles of the rural areas.
  2 Ordinarily we think of poverty as a curse of the slums.
  2 In fact, there is even more poverty in the country and small towns.
    3 According to the rough measure used by governmental agencies, an average family with an income of less than $3,000 a year is "poor."
      4 By this gauge, one person out of every eight in the metropolitan areas is living in poverty.

4 But in rural areas the figure is one of every four.
5 Altogether fourteen million Americans are poor—and a lot of them, naturally enough, are thinking about moving to the city.
6 (They are not, as one might think, mostly Negroes.
6 In fact, of the fourteen million, eleven million are white.)[6]

Under many circumstances, particularly in those publications requiring short paragraphs, the preceding might have been divided into two. The writer has completed the idea stated in his topic sentence at the end of the sentences numbered four. The fifth sentence moves off in another direction as it focuses not on the urban-rural comparison but on the movement of country people to the cities. A Christensen analysis of this paragraph enables readers to discern this shift, to note that sentence five (practically a new topic sentence) is not supported within the paragraph, and to question its "naturally enough."

Other types of paragraphs classified by Christensen are those beginning with introductory (I) or transitional (T) sentences, or those ending with a sentence that serves as a conclusion or coda (C). Illustrations of these extrasequential sentences appear in the following paragraphs.

Paragraph with Transition

T1 The two-tier system, like the foundering Gold Pool, would be used as merely a short-term solution to the gold drain.
1 Before long the central bankers hope to implement the idea of special drawing rights that could be used along with the gold and dollars.
2 The S.D.R.'s would be certificates representing members' credits in the International Monetary Fund.
3 They would make it less necessary for other governments to hold so many dollars in reserve—and less burdensome for the U.S. to redeem these dollars with gold.[7]

The opening sentence here links the two previous paragraphs about the Gold Pool and the two-tier system with this paragraph about the special drawing rights.

Sometimes the opening sentence functions as an introductory device, calling attention to what follows. Here is such an example.

Paragraph with Introduction

I1 One assertion can be made with some certainty.

1 The prohibition on public employee strikes will not survive in the American climate if its maintenance depends primarily on the severity of the penalties for violation.
2 A tough law now backs up the ban on federal strikes.
3 This law, passed in 1955 as a carry-over from the Taft Hartley Act of 1947, makes it a felony to strike against the government . . . .[8]

To save space, the rest of the paragraph has been omitted.

Although the freshman English texts state that a topic sentence may appear at the end of a paragraph and that it is effective to close in this manner, examples in print of this practice are difficult to find. Here is one example:

Paragraph with Conclusion

1 This man who works less and less for higher and higher wages is also the man who, with the connivance of his bosses, is steadily lowering the standards of workmanship and the availability of service in the American economy.
2 If there is a common complaint among consumers today, it is about the poor quality of the goods they buy, the frequency with which they break down, the extreme difficulty of getting them properly repaired. and the built-in obsolescence which characterizes so much of American manufacture.
3 These complaints in themselves are reaching a critical point.
C1 Thus it is not only the quantity of manpower which is declining on both sides of the bargaining table, but the quality of the work that is produced by the worker, which would not be possible without the silent acquiescence of his employer.[9]

The concluding sentence here is coordinate with the opening topic sentence and as such emphasizes the point. However, it fails to compensate for the weak third sentence, which hangs precariously by itself without support.

Of course, not all paragraphs are authentic paragraphs. Their illogicality is ruthlessly exposed under the Christensen analysis, as indicated in the following:

Illogical Paragraph

1 General Motors and A.T.&T. each has an annual profit larger than the gross national product of each of seventy nations.
2 This nation's business and civic leaders call for international peace and domestic tranquillity.
2 They lament starvation in India and Mississippi—but they refuse

to use their profits to give people food.
2 They preach equality, but practice segregation in business and housing, in order to earn money or preserve their way of life.
2 They speak of peace, but sell napalm and munitions to the highest bidder.
2 They claim to serve the customer first but, in fact, serve their pocketbooks by building products that become obsolete.
2 And they pay their employees not what decent sustenance, but only law, requires.[10]

In fairness to the writer, it should be mentioned that three paragraphs earlier he stated that young people are aware today of the hypocrisy, infidelity, and neglect of adults, and that he has supported this statement with two following paragraphs referring first to the Vietnam war and then to the use of marijuana. However, in the paragraph cited, the first sentence is irrelevant, although perhaps it attempts to condemn these giant corporations because of their size. The second sentence functions as the topic sentence, but unless it is to be read ironically, it does not accurately signal what follows.

This explanation and application of Christensen's analysis of the paragraph has been necessarily sketchy and incomplete because of the time limitation. My purpose was to introduce you to some of the exciting new work going on in the revitalized field of rhetoric. The principal thrust of Christensen's study is towards helping students beef up their undernourished paragraphs. But you can observe how this same technique may be used to help college students read effectively. Through such intensive study of the directions and movements within a paragraph, they should perfect their ability to read critically and perceptively. If they do, then we will have helped them towards mastering the most valuable and enjoyable of human activities—reading.

Bibliographical References

1. Francis Christensen, Notes toward a New Rhetoric (New York: Harper & Row, 1967).
2. Ibid., p. 56.
3. Adapted from an advertisement by Olin in the Wall Street Journal, March 14, 1968, p. 13.
4. "Gold: the Trouble with Money," Newsweek, 71:69-78, (March 25, 1968), p. 76.
5. Adolf Sturmthal, "The Timid Giant of Asia," Think, 33:9-13, November-December 1967), p. 13.
6. John Fisher, "A Shipload of Doomed Men," Harper's, 236:9-12, (January 1968), pp. 11-12.
7. "Gold," Time, 91:71-78, (March 22, 1968), p. 72.
8. A. H. Raskin, "Strikes by Public Employees," Atlantic, 221:46-51, (January 1968), p. 48.
9. John Tebbel, "People and Jobs," Saturday Review, 50:8-12,42, December 30, 1967), p. 10.
10. W. Eugene Groves, "Who's Having the Identity Crisis: Businessmen or Students?" The American Scholar, 36:631-35, (Autumn 1967), p. 633.

ADULT LITERACY MATERIALS

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The Adult Literacy Research Project at the SUNYAB has provided an opportunity for insight into the place of materials in ABE. Adult education is not unlike other teaching situations in that the teacher is more important than any other factor. It is the teacher who provides the most vitally important ingredient of a good learning situation by establishing a good learning climate—or conversely she may take it away by not establishing one. A negative, non-accepting attitude in a classroom allows only grudging improvement—and the teacher is the prime mover in determining whether or not her classroom will be negative or positive, accepting or non-accepting.

But materials are important. In actual point of fact, they often control the aims of a program. I have noted with interest the difference between what a teacher may say she has as her aim or objective for a certain class period and what she actually does. Inflexible or skimpy materials make it difficult for the teacher to find ways of meeting her aims, and she may follow the path of least resistance by using the materials, whether or not they accomplish her stated objectives. In essence, this means that the materials often determine the aims of a program.

Not only that, but materials often control the flexibility in the program, both horizontally and vertically. By horizontal flexibility I mean the use of additional materials to amplify a concept or teach a skill until a student masters it. By vertical flexibility I mean the accomodation within the material to allow him to learn at his own pace, no matter how rapidly or how slowly.

Much of the appeal of a program is based on the materials. If they are interesting, if they meet the needs of the students, if they have an appealing adult-centered format, and if they are constructed in such a fashion as to make learning possible, then a program has a good chance of success.

What then are the earmarks of effective materials? I think first of all good materials must catch and hold the students' interests.

Under a USOE grant #6-1136, the Adult Literacy Research Center at the State University of New York at Buffalo has investigated some of the reported interests of adult illiterates. Two-hundred-seven adults reading at less than third grade level were interviewed and were asked to identify their choices from 60 paired titles, each title representing one of six major categories. These six categories were: 1. children, animals and humor, 2. sociology, history, and civics, 3. family and self improvement, jobs and health, 4. religion, 5. sports, adventure, and travel, and 6. science, and math.

Those of us on the staff of the Research Center felt we had done a good job in concocting interesting titles to represent each of these areas. Each category was represented with titles matched against each other category twice, no title appearing more than once. We found, however, that there was anything but an even distribution among the various categories. We found that there was virtually no interest in such titles as, "The Witch in the Forest". "The Dinosaur Book," "The Winning Team", "Fun With Numbers", "Dead Man's Treasure", "Floating Down the Mississippi", "Puff Gets Lost", or "Lost in a Cave". These all appeared at the bottom of the distribution of 60 titles in frequency of choice. They were chosen by less than 10% of the subjects.

On the other hand, titles chosen at least 90% of the time included "A Job I Liked", "How to Eat Better", "The Ladder to Heaven", "Lincoln, Man of Peace", "Our Greatest President", "Better Health and Longer Life". "Stories of the Bible", "Being a Better Christian", and "Train Yourself for a Better Job."

When the categories which the 60 titles represented were compared to one another, we found that category one, children, animals, and humor, fared very poorly against almost all of the other five categories. Only against science and math did they make an acceptable showing. Against sociological, historical and civic titles they were chosen on an average of only once out of each ten times. Against family and self improvement, only once out of five; against religion, one time out of ten; in comparison to sports, adventure and travel, one time out of four.

When the second category of sociological, historical, and civic titles was examined, we found that although they did quite well when matched against children's stories, they did poorly in comparison to family and self improvement, jobs and health, being chosen only one time out of five; in comparison to religious titles, chosen one time out of four. These titles did better than sports, adventure and travel, however, being chosen four times out of five when matched against these titles. They broke even when matched against science and math.

The third category, family and self improvement, jobs and health, which was preferred over the first two categories of children, animal, and humor stories and the sociological titles did less well when compared with religious titles. being chosen six times out of ten. Against sports, adventure, and travel, however, the third category was chosen nine times out of ten, and against science and math was chosen nineteen times out of twenty.

The fourth category, religion, which was much preferred over children, animal, and humor stories and the sociological, historical and civic titles, lost only to family and self improvement, jobs and health, being chosen there. as previously mentioned, only four times out of ten. In competition with sports, adventure, and travel, however, religious titles were chosen nineteen times out of twenty, and in comparison with science and math, were chosen two times out of three.

The fifth category of sports, adventure, and travel was only preferred to children, animals, and humor titles, losing badly to sociological, family and self improvement. and the religious titles. In comparison with science and math, there was no clear preference.

The sixth area, science and math, showed no clear differentiation of choice when compared with the titles in the categories of children, animals, and humor, the sociological, historical, and civic titles, or sports, adventure and travel titles. It was beaten badly when compared with family and self improvement, being chosen only one time out of twenty, and managed a respectable showing of one choice out of three when compared with religion.

An interesting additional feature of the science and math category showed that the interest of the faster learners seemed to be somewhat stronger in the area of science than those who were not able to learn as quickly.

The point of this research is that the adult city core illiterate who appears in many ways to be a most passive individual does. as a matter of fact, have quite pronounced and definite areas of interest. He prefers utilitarian titles, placing the category of family and self improvement, jobs and health at the very top of his list of titles. His next choice were those titles indicating religious interest, followed by a third choice of titles mirroring an interest in the sociological, historical, and civic matters.

Titles of least interest were those dealing with children, animals, and humor, and titles in the category of sports, adventure, and travel. Science seems to fall in an intermediary position, appearing to be of strong interest to some, and little interest to others.

It has to be pointed out, however, that these are reported interests of the adult city core illiterate. How do these stack up with the observed interests of adult students faced with actually reading from materials in these interest areas? Although we are not yet able to have the completed data at our fingers, it seems quite safe to say that the category of family and self improvement, jobs, and health seems to be the category of highest interest when subjects in the classes were allowed to comment on the readings which they had enjoyed most. Their response, for example, to selections on ways to shop better was enthusiastic. They also seemed to respond well to religious titles, although most selections would have been too difficult for them to have read, and reproductions were limited to short selections such as verses from the Twenty-third Psalm, and the Lord's Prayer.

They also found Spirituals to be easy to read because they are quite familiar with the words. However, their response to "fun" songs, such as "She'll Be Coming Around the Mountain", was less than overwhelming. This may be a reflection of their low estimation of childish or humorous titles.

Their interest in the area of sociology, history, and civics seems to correctly to have been placed at a reasonably high level since they respond well to readings such as "The Story of George Washington Carver", and "Langston Hughes."

A category which was missed in the original survey was that of poetry, although it might be considered a form rather than a category. At any rate, there has been much appreciation of the sociologically focused poetry of Langston Hughes, although only two were chosen for use. There have been a few requests for stories about travel to other parts of the country, but in general the categories of sports, adventure, and travel, and science and math, have only received mediocre response. There is a higher interest in math, as a subject, but not in math or math puzzles. They view it as a very utilitarian subject, quite worthy of their time and interest when it is treated as "arithemtic".

but not just when it is "Fun with Numbers".

In summary, then, effective materials need to catch and hold the readers' interest.

A second earmark of effective material is good instructional organization. One of our needs in this area is a reliable measure of reading difficulty of beginning reading adult materials. We have reading difficulty measures for children's materials and for advanced adult materials, but no formulae are presently available which can do a good job of placing the readability level of very low level adult materials.

However, in a survey of a dozen adult beginning reading books or systems, measured with readability on the basis of our present inadequate instruments, only one was found to begin at what might be easily recognized as early first grade level. Three of them began as high as middle fourth grade level, and the vast majority started the beginning reader in second and early third grade level material.

One set of material was virtually at the same readability level at the end of the book as at the beginning, while another covered a range of five grade levels, much too rapidly paced to be used with the adult city core illiterate, except in the rarest circumstances. Proper level of readability is an essential for good instructional organization. Materials must begin at a level which will insure success for our adult city core populations as they begin reading, and must not proceed at such a pace as to make it impossible for them to keep up.

A third earmark of good instructional material is flexibility. The materials must permit the teacher to individualize instruction. What this usually means is that materials must provide three tracks: one for the rapid learner who can move through the basic material quickly, a second track for the average learner who must have more material to reinforce his learning before he can master the basic material, and still a third track for the learner who must have the basic material plus the reinforcement material plus whatever other materials are available such as games, flashcards, filmstrips, flip charts, and other adjuncts. A one-track system simply is not enough to take care of the needs of any class, and certainly not a class of adults, bringing with them their varied backgrounds.

The fourth earmark of effective materials is its general appearance. The format of the material must give a pleasing appearance. The illustrations, the type size, the length of the book, the number of words on a page, all have an impact on the beginning adult reader. He is not as interested in reading materials which appear to be either too lengthy, too short, or too childish. He appreciates adult style illustrations, and may resent unduly large type size. On the other hand, type size which is too small or unclear, may cause him much more difficulty than a first grade child because he is more likely to have difficulty with his eyesight. In a word, materials needs to be carefully produced directly for the education of the adult city core illiterate.

Materials, though not the most important thing in the instructional program do help and the selection of good. interesting, well-organized, pleasant-appearing materials, are an invaluable asset to an adult literacy program which means business.

DEVELOPING COLLEGE READING SERVICES

Allen Berger
The University of Alberta (Edmonton Campus)

The College Reading Services for the approximately 18,500 student at Southern Illinois University's Carbondale campus are described as follows in a flyer:

The Reading Center
In Conjunction with
The Department of Elementary Education

announces the following services to college students

Elementary Education 000-0. Reading and Study Techniques. A service course to aid students in improving reading and study skills. Time schedules, general principles of effective study, improving reading, making notes, etc. Recommended for students, native and foreign born, who seek a strong corrective course.

Elementary Education 101-2. Developing Reading and Learning Skills. The course is designed to increase reading and study efficiency. Areas covered include speed, comprehension, vocabulary, and study skills (concentration, note-taking, test-taking, time-scheduling, etc.). Recommended for students who seek a strong developmental course.

Speed Reading. Special speed reading classes are offered each quarter to a limited number of students. The classes meet two hours a week for five weeks. Students interested must register at the Reading Center, Wham Education Building. Registration is on a first-come, first-serve basis. A fee will be charged to cover the cost of materials.

Walk-In Service. Any student who wishes short-term help in reading or studying may make an appointment to see a member of the Reading Center staff. Appointment may be made through the Secretary of the Reading Center, Room 146, Wham Education Building.

Director
College Reading Services
Reading Center
Southern Illinois University
(Phone: 3-2446)

The university's Printing Service printed 5,000 of these flyers for distribution via campus mail to Offices of Deans and Residence Halls. The intent of this paper is to record the developing College Reading Services at Southern Illinois University.[1]

The last three services cited on the flyer were inaugurated at the start of the Winter quarter of the 1966-67 school year. Previously there were ten sections of Elementary Education 000 for no credit. Through dint of hard work, the last nine sections of this course were replaced by a new course, Elementary/Secondary Education 101 (Developing Reading and Learning Skills) for two quarter hours of credit.

"Through dint of hard work" refers to moving through the various echelons to put a reading and learning skills course for credit on the books. It be might helpful to mention the procedure for those interested in reaching a similar end. Although the specific steps may be different in various institutions, the general procedure is quite likely comparable.

The channel followed was: 1. Reading Center, 2. Department of Elementary Education, 3. Curriculum Committee, 4. College of Education, 5. Dean of Academic Affairs, and 6. Registrar's Office. It might also be helpful to mention the major questions that had to be clarified:

1. Isn't a reading and study course sub-college?

2. Isn't a reading and study course a skill course?
3. Is there sufficient content on the college level to warrant credit?
4. Why should the couse be given under the auspices of the College of Education?

The Coordinator found it helpful to write brief reports explaining, among other things. the rationale behind a reading and learning skills course for credit: these reports were directed and distributed to the personnel involved. When all the required signatures were obtained, an announcement of the new course was carried in the university's daily newspaper.

The nine sections each quarter of the new course, which meets three times a week, have since expanded to twelve sections, effective Fall quarter, 1967-68. Two additional sections, meeting in the evening, will start Spring quarter under the auspices of the university's Adult Education Division. During the first summer of the course's existence, five sections were held, and six sections have been scheduled for the approaching summer. At this writing (April 1968) these six summer sessions already are filled in pre-registration.

Mention should be made of a tutoring service set up for the students in the twelve sections of Developing Reading and Learning Skills. The tutoring service stems from an assignment given by the Coordinator of the College Reading Services to students in Secondary Education 440 (Teaching Reading in High School), a course he conducts each quarter. The assignment was to tutor someone for six sessions. The availability of these student-tutors—mostly seniors who either had or were just about to have student-teaching experience—was made known to students in the twelve sections of Developing Reading and Learning Skills. It was carefully explained who the tutors were and that the tutoring would be a mutual learning situation. Each quarter approximately thirty students, mostly freshmen, from the twelve sections have requested this tutoring help. and these students have been assigned to the thirty students in Teaching Reading in High School.

The Catalog and Schedule of Classes have the new course cross-listed under Elementary Education and Secondary Education and noted under General Studies. Two articles, one containing a description of this new course, and the other containing the results of a study of its effectiveness, are pending publication.

During Fall quarter, 1966-67, the university's daily newspaper, **The Daily Egyptian**, carried advertisements of Evelyn Wood Reading Dynamics, Inc. These ads stimulated students to approach the Reading Center for help in increasing their reading rate. So great was students interest that two special speed reading sections were set up to accommodate a total of 40 students.

About the middle of the third week of the new special speed reading service, a Student Editor who was unaware of the existence of the service wrote a brief editorial recommending its creation. After the Editor was informed that such a course was already in progress, the newspaper carried a humorous congratulatory apology.

Three days later **The Daily Egyptian** published an item submitted by the Reading Center announcing the opening of three sections of speed reading for the Winter quarter—two day sections for students and one evening section for faculty and community. Within the week two months before the beginning of the Winter quarter—the two student sections were filled not only for the Winter quarter but for the Spring quarter as well and names were being taken for the Summer quarter.

Students are kept informed of the speed reading service by a news item appearing toward the beginning of each quarter in **The Daily Egyptian**. The item indicates that students can sign up for the service at the Reading Center. Students pay a three dollar fee at the Bursar's Office; this fee is used for the purchase of material for instruction. A description of the method used is contained in an article in **Reading Improvement**.[2]

It is surprising, but nonetheless true that many students and faculty members have little knowledge of the far-flung activities of a Reading Center or its College Reading Services. However, with the aid of the flyers and the university's newspaper, the number of students walking into the Reading Center for help with their reading and study problems has been increasing steadily.

During the 1967 Summer quarter, in addition to the regular services, a reading and study course was launched for 15 high school students in conjunction with the regular graduate level course for teachers concerned with teaching reading in the secondary school. Two high school classes are scheduled for the 1968 Summer; these will be held in connection with the NDEA Institute for High School Teachers of Reading and English. Each class will contain 17 students and these students will earn a half credit.

Currently the personnel in the College Reading Services includes one professor, six graduate assistants and instructors, and the Coordinator of the Services who is also a professor at the Reading Center. Every member of the staff has had experience in teaching in the public schools and, with the exception of the regular faculty members, all are working toward advanced degrees in reading education. The members have luncheon meetings weekly.

The College Reading Services maintains a good working relationship with the university's Counseling and Testing Service and with the advisors of the General Studies program which includes freshmen and sophomores and with the advisors of the Liberal Arts and Sciences. The Coordinator and other staff members have spoken to these groups to relate ways in which the services may work more closely.

With the additional personnel needed for expansion, it is anticipated that the present services will be enlarged and additional services added. At present the Coordinator is considering the following: 1. being of more direct assistance to additional academic units on campus: 2. working with student representatives from fraternities, sororities, and dormitories; 3. setting up an informal program for students who do not need the structure of a class; and 4. obtaining the far-ranging insight of R. Buckminster Fuller, the genius of the geodesic dome and other lesser known accomplisments.

Bibliographical References

1. A detailed "Three-Year Report of College Reading Services at Southern Illinois University (1965-68) is available from the writer of this article.
2. Allen Berger, "Increasing Reading Rate with Paperbacks," **Reading Improvement**, 4:3 (1967), pp. 47-53, 57.

TEACHING DIAGNOSTIC TECHNIQUES TO CLASSROOM TEACHERS

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The Problem

It is not a pleasant thought but teachers are not matching children's instructional needs with correct programs and materials nor are they teaching children at proper levels. As Johnson and Kress[1] point out, ". . . children are often considered ready for instruction when they have a great many deficiencies in their operating patterns at a particular level." This happens even when the teacher can recite the criteria for independent, instructional, and frustration levels in reading. These teachers do not recognize an instructional reading level performance when they are working with children. Why the gap between information and practice?

This situation has two parts. (1) The teachers lack skill in the administration of diagnostic tests, and (2) they need practice in the interpretation of the child's reading behavior when tested.

Classroom teachers can learn about diagnostic procedures through reading texts and test manuals and listening to lectures. Unfortunately learning diagnostic procedures does not result in the teacher's using diagnostic procedures; she lacks the necessary skills. She especially lacks skill in individually administered tests. Something more is needed. Something must convert knowledge into classroom action.

What teacher training devices will develop skill in applying this knowledge? What teacher skills are crucial? Detailed clinical techniques are not feasible because the classroom teacher has limited time available for working with individual children.

Classroom teachers can observe expressions of interest and behavior patterns which might influence learning to read. Teachers can talk with the children about their interests and attitudes toward reading. They can talk with the child's parents and with former teachers of the child. Some teachers may administer standardized diagnostic reading tests. But the shortcomings of group diagnostic reading tests are well known and most individually administered tests require too much time for administration. Teachers can learn to use the informal reading inventory. The teacher skills required to properly administer an informal reading inventory are as follows: the memorization of marking code; well developed skills of auditory discrimination and auditory memory; and skills in recognizing the visual cues of stress which a child may exhibit during reading. Tapes. transparencies, films, and video tapes can be used to develop these skills by stimulating actual classroom behavior.

Developing Teacher Skills

Initially oral reading can be used to evaluate performance. The child is asked to read a short unfamiliar selection. The teacher can make a precise record of the child's reading performance by using a code and a second copy of the reading selection. She will insert symbols to record errors[2]. This code enables the teacher to analyze a reading performance long after the testing; it even enables the teacher to read the selection the way the child did. This helps a teacher to recognize and understand error patterns; i.e., on this selection Jimmy consistently had trouble unlocking words where the "final e" rule should have been of help. These records are used to form general instructional groups or specific reading skill groups—medial vowel sounds in one syllable words that end with "e".

The teachers memorize a marking code to make consistent analysis possible. Learning a marking code is the first step in developing skill in the use of informal diagnostic techniques. Learning the code forces the teacher to think about specific reading errors. She develops an awareness of the predominant error patterns by her analysis of the performance by the reader.

Providing Practice in Using the Code

Developing skill in the use of the code does not end with memorizing that code. Many teachers remember the symbols of a code but cannot product an accurate record of a child's reading performance because they cannot use the code fast enough. They need practice in its use.

Listening Skills

Teachers must also possess adequate listening skills of auditory discrimination and auditory memory to use the code correctly. The need for precise auditory discrimination is obvious when the child is making subtle errors in the use of phonics. Efficient auditory memory is necessary because some children read rapidly even though they are making numerous word recognition errors. Experienced teachers can continue to make a record of the child's reading performance for over half a minute after the child has stopped reading aloud. A carefully designed series of audio tapes can provide the simulation of a child's oral reading performance at several grade levels. The teacher listens to the tape and uses the code to record the performance.

The teacher's accuracy with the code can be studied, errors noted and examined, and corrections made through replay of the tape. Visual transparencies of the reading selection, correctly coded, offer the teacher a visual example of the desired end product. These transparencies are especially valuable in training listening skills with a group of teachers.

Two or more teachers interested in developing these listening skills can employ simulation in another form. At least four copies of a test selection are needed. Each teacher simulates a child's oral reading by marking one copy using the code symbols. Then she reads her script orally while other teachers use the code to record the performance. Repeated trading of these responsibilities, writing a script, listening and making a record, develop skills of auditory discrimination and auditory memory.

This procedure results in a second important benefit. Teachers develop an appreciation of what constitutes an "instructional level" oral reading performance. When teachers first try this activity, they randomly scatter so many errors throughout the selection that the performance is obviously at frustration level. There is no reason for the errors: practically every error that can be scored is present. While some children working at frustration level will show this random error pattern, many do not: their error patterns are consistent and clearly identifiable. As teachers continue using the code to produce an instructional level performance that can be analyzed and used to design an instructional program, they develop an appreciation for the child behavior they should expect in classroom instructional groups[3]. They develop an understanding of the performance criteria which define instructional level. Many teachers are surprised at how few word recognition errors are allowed at instructional level. Many teachers have reported reorganizing their classroom instructional groupings because they developed new insights through use of this relatively simple and inexpensive activity.

Observing Visual Cues — A Last Necessary Skill

Just as teachers need training in responding to auditory cues so they also need training in noting and interpreting the visual symptoms of stress exhibited by a child during oral reading. A child must be comfortable when reading at his instructional level. A child may show symptoms of reading difficulty by starting some new or a typical physical behavior; fingers begin to drum on a desk top, hands to rub on legs, or feet to bump against a chair leg. The teacher must observe these symptoms while recording the oral reading performance and do so in a manner that does not make the child self-conscious of his busy hands.

Films or video tapes of children reading short oral selections can train observation skills. For initial training experiences these media are superior to live children because the demonstration sequence can be rerun. Through simulation a number of children showing different behavior patterns can be studied and analyzed in a very short time. The instructor can plan each lesson so the teachers know what to look for. Class response will reveal any needs for reviewing of the film. Soon films will be viewed without introduction and the teachers will be expected to note significant behavior.

Demonstration Phase — The Final Step

The teacher is fully ready for demonstrations with live children when the listening and observation skills have been developed. The pre-service teacher especially needs an opportunity to see how children behave when undergoing diagnostic analysis of their reading performance. Demonstration with children augments the intellectual learnings and skills in this final phase of the training sequence. Demonstration with children bridges the gap between understanding and skill development and utilizing of these learnings in the classroom.

Assuming Full Responsibility

Finally, there remains practice under close supervision to complete this program for training teachers to use diagnostic reading techniques. Teachers must try their hand. They must practice their new learnings and skills by working with children. With the instructor close at hand, this provides the support necessary for teachers in their first attempts at analysis of reading performance. The instructor's presence offers support and he gives whatever guidance is necessary in critique sessions after the children have been dismissed. The important point is that the teacher knows help is available and that no mistake on her part will pass unnoticed and result in harm to the child. This approach develops the self-confidence necessary for teachers to assume full responsibility for the analysis of a reading performance in their own classroom. It bridges the last gap between theory and practice. The readiness for this full role can be developed through the simulation activities significantly increasing the skill growth of the teachers and shortening the practice and skill development work with children.

There are several advantages in preparing teachers to use diagnostic techniques in their own classrooms through the use of carefully designed audio tapes, coded transparencies, and films of children reading. The instructor knows in advance what auditory and visual stimuli will be presented; the element of chance that comes with using children is eliminated. The instructor is able to structure the lesson properly preparing the teachers for what they will hear and see. He knows what questions the teachers can answer after each bit of instructional media has been used. Repeated experience with the same materials enables him to anticipate questions and allows him to prepare clearer and more adequate answers. With specific teacher behavioral goals linked to each simulation material the instructor is able to judge effectiveness of learning and can repeat stimuli or present new material based upon teacher response. The whole teaching-learning environment is efficient and effective.

The use of simulation devices which require specific responses forces the teachers to be alert and active learners. Lectures and demonstrations. which require no response from the teachers, encourages them to be passive and inattentive with little risk. When teachers, or any learners, know that they must make sensible responses to an audio or video tape or film clip they are active participants in learning; learning is more rapid and effective and retention is greater[4]. This procedure is valuable whenever skill in teacher response to student performance is being developed; it is not limited to reading.

Simulation has the advantage of immediate availability with no limit to the size of the audience. Less time is spent in arranging for children to be transported to a specific place at a specific time. Children on tape and film never get frightened or sick at the last minute. Their voices are audible. Naive children are available for the final phase of this training program instead of test-wise guinea pigs.

Finally, the training environment is nearly identical to the regular classroom so that transfer of these newly achieved understandings and skills is nearly automatic. The classroom teacher is ready to systematically analyze the reading achievement and specific instructional needs of each child at the completion of this training. The basis for diagnostic teaching has been developed. The teacher will appraise each child's reading achievement and modify instruction according to specific individual instructional needs wth a new sense of confidence. This approach to teacher training requires a new approach for the college instructor. The rejection of the lecture approach to teacher training is only the beginning, but the evidence is in. The need cannot be denied. The children will be the winners.

Bibliographical References

1. Marjorie Seddon Johnson & Roy Kress, **Informal Reading Inventories** (Newark: International Reading Association, 1965), p. 5.
2. A code adequate for training classroom teachers to use diagnostic procedures is as follows: Omissions—circle the word omitted; Substitutions—draw a line through the word substituted and write in the substitution; Insertions—insert with a caret; Pronunciations—write a "P" above all words pronounced for the child.
3. Robert A. McCracken, "The Informal Reading Inventory as a Means of Improving Instruction," **The Evaluation of Children's Reading Achievement, Perspectives in Reading #8** (Newark: International Reading Association, 1967), p. 86.
4. Donald Michael, "Some Factors Influencing the Effects of Audience Participation on Learning from a Factual Film," **HRRL Memo Report No. 13, Revised Report** (Washington, D.C., U. S. Air Force Human Resources Research Laboratories, Headquarters Command, Bolling Air Force Base, December 1951).

INDIVIDUALLY PRESCRIBED INSTRUCTION READING PROGRAM

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One of the major themes in education today is that of the "individualization of instruction." For the past 10 years or so, conventional systems of organizing the schools for instructional purposes have been under attack. Many innovations have been suggested and tried with the purpose of breaking the lockstep of the more conventional programs. These include such innovations as: flexible scheduling, nongrading, team-teaching, programmed instruction, dual progress, advanced placement, coordinated education (a cradle-to-grave education) programs and many others.

Because of the importance of this problem and the potential contribution to educational practice that could result from any significant progress toward the development of procedures providing for many individual differences among students, the Learning Research and Development Center at the University of Pittsburgh is devoting major attention to this problem. A further basis for centering attention on this type of problem is the long-term research and experimentation commitment involved which the research and development centers, now being funded by the U. S. Office of Education. have the unique opportunity to investigate. An example of this long-term commitment is the development of curriculum materials and instructional procedures which must involve the close collaboration with practicing public school personnel, curriculum-development specialists, subject-matter scholars, and various types of behavioral scientists.

One of the projects at the Learning Research and Development Center that is primarily concerned with the problem of individualization is the Individually Prescribed Instruction (IPI) Project. Since the Fall of 1964, the University of Pittsburgh, in cooperation with the Baldwin-Whitehall School District, has been engaged in the development and implementation of this project in the Oakleaf Elementary School, an operating K-6 school. Under this cooperative arrangement, the teaching staff and student body normally assigned to this school serve as a part of the research and development team permitting this school to become a laboratory school for purposes of testing some basic hypotheses related to individualization.

The IPI Project represents an investigation into the problems encountered in individualizing instruction and involves the development of a program for achieving this goal. The definition of individualization that serves as a basis for the project is that individualization of instruction implies the provision for planning and implementing an individualized program of studies suited to each student's learning needs and his characteristics as a learner. At the present time, the essential aspects of individualization that are of major concern to the project staff are: 1) individualization of rate at which students proceed through a carefully sequenced set of objectives for a given subject, 2) mastery of subject-matter content by individuals to enhance discovery or creativeness as they proceed through a set of objectives, 3) some self-direction, self-evaluation and, to a limited degree, self-initiation on the part of the learners and, 4) individualized techniques and materials of instruction. All these aspects are predicated upon the fact that individualized instruction entails determining what the child now knows in a given area and what he is now ready to learn.

The model to provide for this individualization is conceived of as consisting of the following components: 1) sequentially established curricular objectives in each area stated in behavioral terms, 2) a procedure for diagnosis of student achievement in terms of the objectives of the curriculum, 3) the necessary materials for individualizing learning to provide a variety of paths for attainment of mastery of any given objective, 4) a system for individually prescribing the learning tasks that the student is ready to undertake, 5) the total school environment including teacher functions and school organization and, 6) strategies for continuous evaluation and feedback of information for teacher decision making.

As presently operating, the project involves students for that portion of each school day set aside for study in the three basic content areas: 1) reading, 2) mathematics and, 3) primary science. For the remainder of the day students are engaged in study under procedures followed in most other elementary schools. Since the major area of interest here today is that of reading, I will attempt to explain the reading program as now operating in terms of the six major components of the model. The curriculum being implemented in the reading program presents an attempt to develop a curriculum based on a consensus of recent thinking in this field. After reviewing the alternatives available, the underlying approach adopted by the staff for the instruction of reading was a linguistic approach. This approach seems to suggest four stages of reading: 1) pre-reading, 2) decoding, 3) comprehension and skill development and, 4) independent reading.

Generalizing, these stages proceed from decoding to utilization of the decoding system for the more comprehensive use of the word "reading." Although these stages represent a hierarchcy of development, it should be pointed out that there is a great deal of overlap between the stages making it difficult to define where any stage ends and the next stage begins.

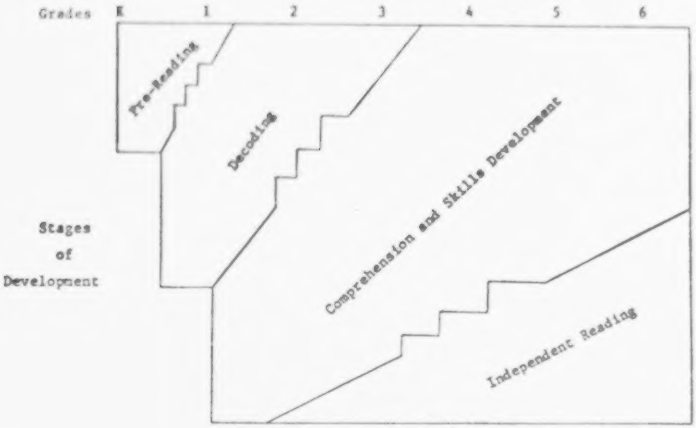
Grades
K
1
2
3
4
5
6
Pre-Reading
Decoding
Comprehension and Skills Development
Independent Reading
Stages
of
Development

Figure 1

Graphic Representation of the Reading Program

In order to individualize instruction, it is important that a sequence of learning experiences be carefully defined and ordered to enable the teacher to diagnose the student's present competencies and and assign him learning experiences he can manage. For this reason, it is necessary to express the curriculum in carefully defined objectives with each objective built upon those that preceded it.

The IPI Reading Curriculum contains approximately 400 behavioral objectives arranged into units and levels. Each of the units contain approximately 2 to 12 objectives relating to an area of study in reading with each level containing the units ordered into some logical structure. Each level represents a level of achievement at the end of a large sequence of work usually requiring several months to a year to complete. Figure 2 represents a scope and sequence chart indicating the number of objectives in each unit for the reading curriculum.

Figure 2

Number of Objectives in Each Unit in
Individually Prescribed Instruction Reading

Subtopic	Level										
	A	B	C	D	E	F	G	H	I	J	K
Visual Discrimination	12	-	-	-	-	-	-	-	-	-	-
Auditory Discrimination	2	2	-	-	-	-	-	-	-	-	-
Phonetic Analysis	-	-	3	6	4	5	6	-	-	-	-
Structural Analysis	-	-	4	7	11	12	6	3	3	3	5
Vocabulary Development	-	4	4	4	3	3	5	2	4	2	2
Literal Comprehension	5	4	4	3	3	4	4	5	3	2	2
Interpretative Comprehension	5	8	5	5	3	4	5	6	6	5	8
Evaluative Comprehension	2	3	4	2	5	4	4	5	4	2	5
Organizational Skills	-	-	-	-	-	7	5	3	6	5	6
Library Skills	3	2	3	2	2	4	6	5	5	2	-
Reference Skills	-	4	1	3	4	7	6	5	4	4	2
Oral Reading	-	2	1	1	-	-	-	-	-	-	-
Rate of Reading	6	4	2	-	-	-	-	-	-	-	-

Once the sequenced objectives in each of the units had been stated, diagnostic instruments were developed to measure the specific tasks to be learned. As presently operating, there are four general types of instruments being utilized: placement tests, pre-unit tests, curriculum-embedded tests and post-unit tests.

In reading, the placement tests, both oral and written, are administered at the beginning of each academic year to determine the starting point for each child in the curriculum. From the results of the placement tests, the teacher assigns each child a pre-unit test for a particular unit. e.g., F-Literal Comprehension or G-Evaluation Comprehension, etc. The unit pretests measure the child's proficiency for each objective within the unit. Mastery of any of the objectives within a given unit means that the child can skip these particular objectives and concentrate on the objectives for which he shows lack of mastery. Once the student has been assigned work in a given objective and indicates from his manipulation of the tasks that he probably has reached the desired proficiency of this objective, the teacher then assigns a curriculum-embedded test to check his proficiency. Mastery on this instrument indicates that he is ready to concentrate on the next objective within this unit. When the student has completed all the work assigned within a unit and the results of the curriculum-embedded tests indicate he has achieved the desired proficiency required for each objective, he is given a posttest covering all of the objectives within the unit. These posttests and the child's progress can be noted in terms of criteria established for this particular unit.

Materials for individually prescribed instruction have been selected and developed to teach each of the objectives. As much as possible, these materials have to be developed for some degree of self-study leading the child from what he knows to what he needs to know next to progress through the curriculum. Where possible existing materials that meet these criteria are identified and when necessary modified for use in IPI. Where materials were not readily available or easily modified, the Learning Research and Development Center's staff and the teachers have developed the necessary materials. An example of the adaptation of commercial materials is the present use of the Cynthia Buchanan, Sullivan Associates, McGraw-Hill published, beginning reading program. In attempting to use the first 14 or 15 books of this series in an individualized program, we found it necessary to develop approximately 500 short recordings to introduce sounds, new words, dictation exercises and other auditory requirements of the program. As a result of the work in adapting this program, we are now finding it feasible to reduce by approximately 50 percent the amount of work assigned in the 14 books as written.

Presently throughout the program there is considerable reliance on worksheets, tape and disc recordings, programmed materials, individual readers, selected materials from reading kits such as SRA, Macmillan Reading Spectrum and others, and manipulative devices such as the language master. Even with the emphasis on self-instructional materials, it should be pointed out that this is not the only instructional technique employed. In some instances, it is necessary and even desirable for the teachers to present new ideas and processes; this is done in small or large groups as well as individually. Group instruction is employed in an individualized program only for a particular purpose and usually only remains intact for short periods of time.

A major ingredient of the IPI system is the individual pupil's prescription or daily lesson plan. On the basis of the teacher's diagnosis of the student's abilities and placement, the lesson plan for each child lists the materials to be used and the instructional techniques to be employed for a particular objective. Generally the teacher's diagnosis includes such factors as: 1) the achievement of the student as it relates to the curriculum, 2) the general maturity of the child, 3) certain learner characteristics as they relate to the particular tasks and, 4) the student's present degree of self-direction and self-initiation. These prescriptions are prepared prior to the scheduled time for reading instruction and are organized for ease of distribution as the class begins.

In order to provide the necessary interaction of the various aspects related to the scheduling of IPI, the students are divided into two groups for the three areas of mathematics, reading and science. These groups are Primary, which would be traditionally kindergarten, first, second and third grade, and Intermediate, which is the fourth, fifth and sixth grades. This procedure is followed in order to better utilize the staff, clerical assistance, and materials for reading.

Currently there are 11 teachers and six clerks or teacher aides assigned to the project. Nine teachers are assigned to homerooms and are responsible for the teaching of non-IPI subjects, i.e., subjects other than math, reading and science. These nine teachers also serve as a nucleus for the program in IPI reading and are supplemented by a reading teacher who functions as a consultant as well as serving as a librarian for each of the groupings of students. Reading is scheduled at least one hour each day for each group. In order to share the additional teacher and clerks, reading for the two segments of the school

The students in the primary reading program usually begin work independently on prescribed materials. In the case of a first grader working primarily in the decoding portion of the program, the student would begin work by listening to one or two records prepared to go with a series of student response sheets introducing him to new sound symbols, review sound symbols and introducing new words. After completing this oral introduction, he will then work in his reading book which at the present time is a modified version of the Sullivan Associates Programmed Reading materials. His prescription will generally tell him how far to proceed in this book before checking with his teacher. Most of the students can proceed through the prescribed materials with a minimum of teacher direction and instruction. However, when assistance is needed the student will ask for help and either the teacher aides or the teacher, depending on the nature of help needed, will assist the child so that he can proceed. When the child has completed this portion of his assignment, the teacher will generally bring together five to 10 students and conduct an oral reading program with them. The emphasis during the individual aspect of the program for these students would be on the decoding processes while the emphasis during the oral reading portion of the period would be on evaluating the decoding aspect and instruction into the areas of comprehension and utilization of the decoding process.

In contrast to the primary program, the intermediate program is divided into two major areas—that of 1) basic skill development and 2) reading skill utilization activities. During the skills development portion of the program, the student is provided a daily lesson plan known as a prescription based upon his placement in the reading continuum and the learner characteristics mentioned above. The students will work independently or in small groups with the materials developed to teach each of the objectives. For example, a student ready to begin work at Level E-Literal Comprehension, would be assigned a pretest covering the three objectives for this unit. From the results of the pretest information, each particular child has specific work prescribed. Upon completing this assignment the student would then check his answers against an answer key. If he had questions concerning interpretations or errors that he made, he would see the teacher. If he had no questions he would then procede to the next assignment. The next assignment might be a selection from a Basal reader such as **New Streets and Roads.** It often happens that the teacher gives the child a more open assignment within this objective permitting the student to read any three or four selections from the material available for this objective.

As the student is working through his assignments, the teacher usually moves throughout the class checking student progress and giving assistance as needed. The information gained from this interaction plus the information obtained from the child's success and difficulties with the assigned materials are the bases for the next day's prescription. About one-half of the child's reading time is spent on activities just described. The other one-half of the reading program the child spends in what can be referred to as the related reading portion of the program. During the reading utilization portion of the program, the student is involved in applying the knowledge obtained from the skills portion in the reading of library books, textbooks, magazines and newspapers. Presently, we refer to this portion of the program as directed, guided and independent reading. Dependent upon the child's placement in the reading continuum, he is assigned to a small group where he is introduced to a variety of sources in reading; he shares interpretation of the same selection with others in the group; he is introduced to some of the classics of our literary heritage and is provided with opportunities for purposeful oral reading. Also, during part of this time, he is given the freedom to select what he wants to read and is given a choice as to how he wants to report on what he has read. The distribution of time spent in directed reading activities decreases as the child moves up to the higher levels of a continuum while the amount of time spent in independent reading increases as he progresses. The main difference between the extremes of directed to independent reading is the amount of teacher input and control of the child's reading activities.

In order to free the teacher for instructional decision-making, tutoring and evaluation of student progress, the scoring of worksheets, tests, and so on, is either done by the teacher adies or by the children themselves. The teacher aides also assist the children in locating materials and performing other non-instructional tasks.

Data Collection

An essential aspect of individualized instruction is the provision for charting the progress of each student as he moves through the curriculum and the availability of these reports for teacher use. This information is necessary for individual prescriptions and classroom organization. The data to be used for prescription writing should include: 1) general ability level in the given subject, 2) the degree of mastery or lack of mastery in each skill in the particular unit assigned to the student, 3) information related to the child's progress in previous units directly related to the skills in the present unit, 4) detailed

5) general learning characteristics of the pupil as they relate to the various tasks related to the particular skill or objective assigned and. information related to the pupil's progress as he moves through the assigned task.

Information needed by the teacher for day to day classroom organization must include: 1) level, unit and skill of each pupil in the class, 2) the approximate length of time (days) the student has been working in a given skill and, 3) the next immediate skill for each pupil in the class. With this information the teachers can organize the classes for small and large group discussion, peer group discussions or individualized tutoring. The availability, accuracy and the format of these reports is a key ingredient to the success of IPI.

A program for computer-assisted management for the project is presently being developed and will be in operation by September of 1968. With the implementation of this management system, teachers will be able to obtain more quickly relevant information on a particular student, reports as to how many and which students are working in the same units or objectives, and daily summaries of the progress of each student. Additional functions of this system will be added as we are able to move the system into operation and train teachers to utilize the system more efficiently.

As indicated earlier, work on this type of problem demands a rather long-term commitment for development. Thus far, evaluation of the program has concentrated on information to assist in improving the program itself. Types of questions investigated to date include: Are the objectives properly sequenced? Which materials are not effective? Which tests are not providing the necessary information?, and so forth.

Assisting in this evaluation, Research for Better Schools, Inc., the U. S. Office of Education sponsored Regional Laboratory in Philadelphia, is field testing the project in approximately 20 schools to obtain data on the model in various settings to determine its reproducibility, cost factors involved, types of teacher training needed in the various settings and variables related to the implementation and monitoring of an individualized program. In general, what has been accomplished to date in the development of the program has convinced the staff that some degree of individualization of instruction is possible with this type of program.

HOW PENNSYLVANIA MEETS THE CERTIFICATION ISSUE

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The write makes no claim to speak for the state of Pennsylvania, the Department of Public Instruction, or any of the colleges and universities in the state. His purpose is merely to report the present status of reading certification in one state as he sees it. He acknowledges the kind assistance and cooperation given him by the Pennsylvania Bureau of Teacher Education and Certification.

For the past three or four years, Pennsylvania has offered a certification called "Education Program Specialist". This non-mandatory certificate is offered in all subject areas, including reading, to those applicants holding a Pennsylvania College Certificate, three years of successful teaching experience, and 45 hours of graduate work with a master's degree in the subject area; or, an earned doctorate with concentration in reading, evidence of experience in reading, and the request of a chief school officer such as a superintendent. At the secondary level, a person may have "reading" written on an English teacher's certificate upon completion of six hours in remedial and developmental reading.

In passing and worthy of note is the fact that since 1966 Pennsylvania has required all applicants for initial certification at the secondary level to have had one course, or its equivalent, in the teaching of reading at the secondary level. This requirement was made part of the total requirements for the Provisional Certificate, the first certificate given to graduates of approved programs in Pennsylvania. [Editor's Note: This requirement was abolished in the summer of 1967.] Imagine, if you will, the frustration of teacher-education administrators who had to scramble for teachers of the course, and who had to adjust their professional education course requirements. Related to this development was a state mandate to offer a unit in "developmental reading" at the junior high levels.

Wilson reported in the December, 1967 **Journal of the Reading Specialist,** p. 82, that six of the Pennsylvania colleges and universities met IRA Minimum Standards, and that three of these six had received state program approval for master's level and beyond graduate programs in reading. Possibly, the number has increased since that time.

In January of this year, the Pennsylvania State Board of Education approved two non-mandatory certification categories in reading, an action that provides an opportunity for qualified personnel from all disciplines, not just elementary or English teachers, to become certified in reading upon completion of an approved graduate reading program.

This action differs from the previous certification in that a qualified individual is to receive a certificate labeled either "Reading Teacher" or "Reading Specialist", rather than the awkward certification noted above. It is noted that the certification is still **non-mandatory**; however, attached to the issuance of this certificate is a requirement that the applicant must be a graduate of a state-approved graduate program in reading. In effect, this action places the onus of attesting to competencies in the teaching of reading upon graduate schools involved in reading instruction and programs.

Working within the guidelines for approval of programs for certification of reading teachers and reading specialists, prepared jointly by the DPI, the State Reading Advisory Committee, and the teacher education institutions in Pennsylvania, each college or university presents evidence to the Department of Public Instruction that its graduate program in reading meets the established criteria. This evidence includes information on objectives, curriculum, evaluation, staff, organization and administration, resources, and facilities for the program. An institution gaining program approval then recommends its graduates to the state for automatic certification as either a Reading Teacher or Reading Specialist. Imagine! No more credit counting, transcript chasing, and sweets to the sour in order to receive a state certificate. That is progress, indeed.

What, specifically, are the professional responsibilities expected of the Reading Teacher or Reading Specialist in Pennsylvania? The **Position Statement** issued by the Pennsylvania D.P.I., Bureau of Teacher Education, January, 1968 lists the following:

> It is suggested that a Reading Teacher be utilized primarily as a reading resource person whose primary responsibility is reading improvement. Such a responsibility may include:
>
> 1. Teaching special developmental and/or corrective classes.
> 2. Demonstrating and prescribing appropriate classroom diagnostic and instructional techniques for colleagues in the area of reading.
> 3. Selecting and prescribing appropriate materials and equipment for reading instruction.
> 4. Participating in in-service programs.

5. Assisting a Reading Specialist in implementing developmental, corrective, and remedial reading programs. Note: The Reading Teacher is not a remedial reading teacher or a clinical diagnostician. However, it is appropriate to utilize the Reading Teacher in remedial work under the supervision of a Reading Specialist.

In addition to the functions suggested for the Reading Teacher, it is recommended a Reading Specialist be given the responsibility for the total reading program. Such a responsibility may include:

1. Planning for and directing the school's reading program.
2. Conducting in-service workshops in order to train teachers for work in the school's reading program and to act as consultant for in-service programs of other schools.
3. Interpreting the philosophy, methods and materials of a modern reading program to parents and the community through PTA or other types of meetings.
4. Demonstrating reading instructional techniques to individual teachers or groups of reading teachers.
5. Conferring with parents of children with reading problems to guide them in playing a helpful role in the child's adjustment.
6. Working cooperatively with librarians to insure the widest use of reading resources.
7. Recommending the use of basal and supplementary reading materials.
8. Helping teachers group children for reading instruction in basic readers.
9. Organizing and directing faculty reading committees.
10. Working cooperatively with other staff members (speech therapist, psychologist, supervisor, etc.) to insure proper teamwork in the solution of pupil personnel and curricular problems.
11. Diagnosing cases of severe reading disability and making recommendations for corrective or remedial procedures.
12. Keeping teachers and administrators informed of new materials which appear on the market.
13. Planning and directing research projects.
14. Writing instructional guides for teachers to increase the effectiveness of reading instruction in all content areas.
15. Interpreting research findings to staff and/or public which are relevant to the development of the reading process.

It should be noted that the above responsibilities are not identified as competencies. Within the framework of the state guidelines, each institution gaining program approval determines those competencies which will enable its reading graduates to fulfill the responsibilites of a Reading Teacher or a Reading Specialist. Finally, the certification designates levels of preparation and not positions in the school. Accordingly, any person holding one or both of the above certificates may continue to be employed as an elementary classroom teacher, a secondary content teacher, a coordinator, or whatever. Hopefully, however, his primary responsibility will be reading improvement in the school setting.

In effect, the certificate for the Reading Teacher is equivalent to a fifth year program, and that of the Reading Specialist demands a sixth year program of studies and beyond. Both require internship experiences. Both fulfill, from this writer's viewpoint, IRA Minimum Standards.

In a very few years, indeed, Pennsylvania has thus moved from no certification in reading of any kind, to what has been described in this paper. Next step? Mandatory certification? Or what?

IRA STANDARDS AND CERTIFICATION[1]

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The Professional Standards and Ethics Committee of the International Reading Association was called into being in June. 1958. It was charged with the responsibility of exploring the feasibility of defining membership, establishing minimum standards for reading specialists, and developing a code of ethics. The organization considered and explored many avenues of approach concerning the problems of certification of reading specialists. In 1961 the Board of Directors of IRA accepted and printed the original Minimum Standards for Reading Specialists along with a code of ethics. In 1965 the committee upgraded the Minimum Standards to provide more flexibility for colleges and institutions preparing reading specialists, although the basic principles were unchanged.

In November of 1966, a conference was called by the Professional Standards and Ethics Committee to determine ways in which certification requirements set by IRA could be expanded and clarified. It was decided that it was no longer feasible to group all reading specialists into one category, and that there was a need at the present time to define roles, responsibilities and qualifications. Twenty people, representing all levels of reading specialization, were asked to define the role they now held, to list their responsibilities, and to determine the qualifications needed by people now in training. By carefully defining each group of specialists we also wanted to standardize position titles. Five areas were agreed upon: special teacher of reading, reading clinician, reading consultant, reading supervisor. and college teacher of reading.

When the work of the five separate committees was collated, it was found that each group agreed to the basic minimum standards last approved by IRA in 1965 as a basis for the present training of all specialists; but that those people, working in categories requiring more responsibility and training, should be required to exhibit proof that they were qualified to carry out the duties called for in their area of specialization.

The basic program for the training of a reading specialist still includes a minimum of 12 semester hours of graduate level reading courses, with at least one course in each of the following:

Foundations or survey of reading

Diagnosis and correction of reading disabilities

Clinical or laboratory practicum in reading.

By listing only three major areas, we have provided individuals and institutions with flexibility to determine where the emphasis in their own program will be placed. In addition, it is also recommended that at least some study be done in each of the following areas:

Measurement and evaluation

Child and adolescent psychology

Psychology, including such aspects as personality, cognition, learning behavior, and the like

Literature for children or adolescents.

The remaining portion of the graduate program may be selected from related areas of study. By making the minimum requirements as flexible as possible, it provides each institution an opportunity to develop programs in reading which best meet the needs of the reading specialists within the area.

The committee has now recommended that people who serve in capacities requiring more skills and abilities be asked to demonstrate that they possess these skills and abilities. Thus. a reading clinician would need to have advanced courses in diagnosis and remediation of reading and learning problems, courses in individual testing, clinical and laboratory practicum, and if possible, an internship. The reading consultant would be expected to have advanced courses in curriculum development and supervision, as well as an internship. The reading supervisor in addition to meeting all of the requirements of a reading consultant would be expected to have additional work in administrative procedures.

In trying to define the role and the areas of competency needed by the college teacher of reading, the committee encountered many difficulties. Due to these difficulties, the first printing of the Roles, Responsibilities and Qualification of Reading Specialists will not contain a section relating to the college teacher of reading. This is one of the charges to the Professional Standards and Ethics Committee for the coming year.

The IRA Minimum Standards brochure has served as a guide to many institutions in establishing graduate programs for the training of reading specialists. The Professional Standards and Ethics Committee is presently evaluating all the institutions originally listed as having met these qualifications, and is also investigating other institutions with new programs which meet the requirements. A new listing should then be made available very soon. This listing has been of tremendous help to those individuals who have been seeking graduate schools where they could receive training as reading specialists.

The Minimum Standards have also proved helpful to state certification agencies in preparing certification guides for reading specialists within the state. At the present time there are twenty states whose requirements seem to meet the present Minimum Standards of IRA. Two other states have requirements for reading people but these are less than IRA's Minimum Standards.[2] New York State, which has long been a hold-out, seems to be on the verge of adopting some certification for its reading people.

We have come a long way since that day in 1958 when IRA first began to think in terms of establishing standards for reading specialists, but the job is far from finished. As more and more of our people meet minimum standards, as our knowledge of reading increases, and as more and more colleges prepare and train specialists in reading, our responsibility to upgrade and revise these standards become increasingly important.

Bibliographical References

1. Dietrich, Dorothy M., "Standards and Qualifications for Reading Specialists." **The Reading Teacher,** Vol. 20, No. 6 (March 1967).
2. Yarrington, David J., "Certification for Reading Specialists." **The Reading Teacher,** Vol. 21, No. 2 (November 1967).

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THE NATIONAL TREND AND CURRENT STATUS OF CERTIFICATION REQUIREMENTS FOR READING PERSONNEL

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To publish an accurate account of the states which are currently certifying individuals in the various areas of reading specialization is almost impossible. This paper merely attempts to up-date information. Only when all fifty states develop certification requirements can such a report be adequate. In the 1960 publication of **Reading in Your School,** by J. Roy Newton, only seven states were reported to have special certification in reading.[1] Dr. Newton reported Connecticut, Delaware, Massachusetts, Oregon, Pennsylvania, and Wisconsin to be certifying teachers in both elementary and secondary reading specialization; New Hampshire was certifying teachers in secondary reading specialization only. In this same report, Dr. Newton indicated that nine states were contemplating a program of certification in reading.

If growth indicates a trend, then the nation is moving toward certification in reading. In the January, 1967 issue of the **Reading Newsreport,** Marion L. McGuire reported on fourteen states' requirements in reading certification.[2] Of the fourteen, ten states were granting reading certification. and four were endorsing certificates for those teachers especially prepared in reading.

Although the exact dates of the certification reports are not available, from the period of Newton's published report (1960), to McGuire's (1967), the number of states offering reading certification had doubled.

A recent issue of **The Reading Teacher**[3] reported "twenty-two states with special requirements for reading teachers, either requiring an endorsement on an existing certificate or a special certificate." Yarrington reported an increase of ten states from 1960 until 1967.

During the summer of 1967, only a few months after the **Newsreport** article, a study similar to Newton's, McGuire's, and Yarrington's was conducted in order to determine:

1. The number of states offering certification in reading.

2. The number of states endorsing established certificates for special preparation in reading.
3. The number of states contemplating or proposing certification for reading personnel.
4. The specific requirements for reading specialization and the attitudes and feelings each state department currently holds concerning teacher qualifications in teaching reading.
5. States which offer no provisions for reading specialization.

By the end of July, 1967, twenty-two states reported established practices for reading certification; of these, two states reported that certification requirements would take effect prior to 1970; eight states reported the practice of certificate endorsement; one state had proposed a program; and ten states were considering a program of reading certification.

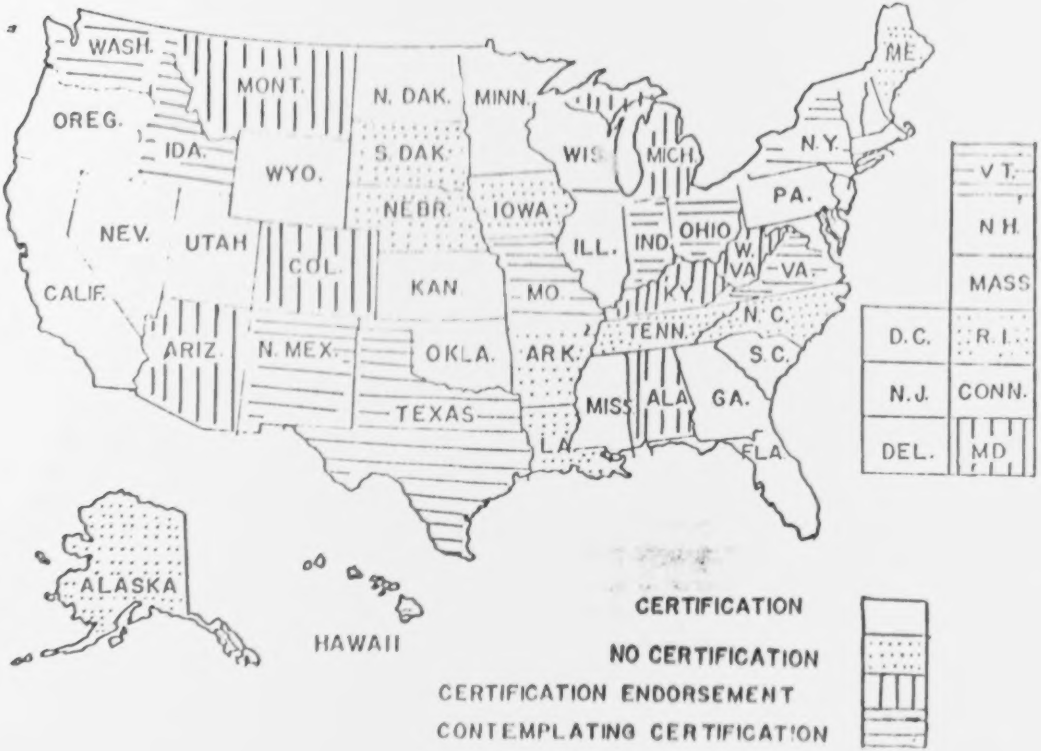
The geographical representation below is designed to illustrate the current national trend in reading certification.

It was impossible to illustrate graphically many of the states' requirements for reading certification, but due to the need for placement of certified reading personnel by colleges offering degrees in reading, the need to evaluate current requirements for reading specialists, to design curriculums to properly certify reading personnel, and to study the current trend of reading certification the following information is offered.

(Map on Page 147)

Bibliographical References

1. J. Roy Newton, **Reading in Your School** (New York: McGraw-Hill Book Company, Inc., 1960), pp. 160-166.
2. Marion L. McGuire, "Certification: Latest Requirements," **The Reading Newsreport,** Volume I, No. 3 (January, 1967), pp. 30-32.
3. David Yarrington, "Certification of Reading Specialists," **The Reading Teacher**, Volume 21, No. 2 (November, 1967), p. 126.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CERTIFICATION
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CERTIFICATION ENDORSEMENT
CONTEMPLATING CERTIFICATION

COLLEGE READING INSTRUCTION: PAST, PRESENT AND FUTURE

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A moment's reflection would reveal that the title is large enough for at least three doctoral theses: one to cover the past; one to cover the present; and one to cover the implications for the future. Rather than trying to present sweeping summaries of the past and present, as well as implications for the future, I will concentrate on only a few areas. I have selected a few topics and practices which were strong in the past, are even more vigorous in the present. and I hope, in the future, will be extinct. You can see that I'm going to be critical.

Before I say more, permit me to provide a setting for my comments by saying that my objective in teaching reading and study skills is to help each student to help himself do a better job academically by providing him with the skills and techniques of scholarship. More concrètely, provide him with skills to master the textbook, to master the contents of lectures, to write the research paper, to study for and pass examinations—all these through helping students become **independent studiers.**

Reading as a Separate Skill

The many articles in the various journals lead me to believe that more than some teachers of reading teach reading as a separate skill; as a skill sufficient unto itself. Realistically, if reading is to yield any benefit to a student who has to master an academic assignment, reading must be treated as a skill which permeates the entire process of study. Reading, therefore, should be taught within the context of a process, usually a study process.

For example, if a student who has been assigned a chapter in history desires to master his assignment. he must do, at least, these four things: he must **read**; he must **comprehend**; he must **remember**; and he must **integrate** to some degree the contents of the chapter into his mental framework.

Even the first step, **read** the chapter, is not the type of reading which most reading programs teach. Actually this study-type of reading violates almost all of the neat principles which most reading teachers teach. Instead of reading rhythmically down the page as most teachers advocate, in actual practice the student seizes a subheading here, a topic sentence there, and a caption under a diagram anywhere. The maze of tracings on the film of an eye camera would be undecipherable as the eyes jump from topic sentence to subheading, then back a page or two to a previously looked-at subheading. Regressions to check on relationships and sequences would be the rule rather than the exception. And the teachers who recoil at lip movements or subvocalization would be horrified if they watched my students actually talk their way through the chapter during the skimming stage.

How inappropriate it is to talk about words per minute. For after the student has skimmed the chapter he is then told to read carefully a page or so to a good stopping point, then to go back to the first paragraph to ask himself, "What did the author say?" If no answer comes forth, he must read it again, and perhaps several more times until he can say something. He must either underline or jot something in the margin, or else make notes on separate sheets of paper. He does this paragraph by paragraph.

My point is this: If a student tries to read a chapter using the words-per-minute type of technique, he may get a glimpse of the idea in the first paragraph, a misconception in the second. and a misplaced emphasis in the third. When this occurs, it is difficult for me to see how he can somehow grind out of the mind a crystal. clear concept. This just defies logic; that is, you don't get something good out of a conglomeration of errors.

Some time ago, Professor Hans Bethe, our Cornell Professor who just received the Nobel prize and who had previously received the Fermi award from President Kennedy, said that almost any student could become proficient in any subject if he would memorize the textbook and the lectures, but such a student would never become creative unless he also reflected on the facts and ideas. Reflection means the repositioning of the facts and ideas, synthesizing them, speculating on their opposites, seeing their implications, making ideas and facts one's very own by blending them into an existing frame of reference. Only then can one leap beyond the ideas and facts in a creative way.

I didn't mean to take all this time just to put forth what appears to be a system; rather, I wanted to make absolutely clear my position that in an academic atmosphere of college. I do not see that we are helping students to do a better academic job by teaching them how to read, however that is done. The payoff is achieved through teaching them how to study.

Speed Reading

Now, let me direct my remarks for a while on speed reading. I am continually amazed to see in our journals so many articles on speed reading, and from the descriptions, speed reading, or at least, rapid reading is the backbone of most programs. Some articles unashamedly start out, "Would you like to double the reading rate of your students in one session?" While others move in more slyly with this kind of a justification: "With the rapid changes in our modern world and the ever-increasing demand for speed and efficiency . . ." And even though such an article tries to put on itself its own stamp of respectability by saying, "In this approach, both rate of reading and comprehension are recognized . . .," still the methods used are no different from methods used in any other speed-reading program.

These articles usually give the same old story on eye fixations. As we know, anyone advocating speed reading, must establish that with a single eye fixation, more than one word can be taken in. The usual proof that this is possible is the basketball player analogy: he is dribbling down the center of the floor. looking straight ahead, but seeing the players on either side. By using such a crude, gross, physical-type analogy, the teacher of speed reading thinks that he has somehow won his point. It is true that when I look at the very center of a page, I can see that the page contains a full page of words, but I can recognize only the one word on which I'm fixating. If I continue to stare, I can call out the word to the left and to the right, but I'm not sure whether my eyes shifted an almost imperceptible micro-bit to the left and to the right. Furthermore, I feel that my mind entertained each word separately. There are two main questions in the fixation theory: First, even if the two words were seen physically in one fixation, can the mind get meaning from two words at the same time, or does it have to entertain each word separately? If the mind has to entertain each word separately: that is, each word has to await its turn, why not view the words separately in the first place? It would be less confusing.

Every teacher of reading should know the contents of the **EDL Reading Newsletter 30**. which contains a splendid piece of objective research on eye movements. Using an eye camera to photograph the reader's eye movements, this study revealed that the average college reader took in 1.11 words per fixation, and that the most superior readers, trained or untrained, seldom took in more than 2.5 words in a single fixation.

The same **Newsletter**[1] points out that only four or five letters around the fixation point are seen with 100 per cent acuity, and words which are one inch from the point of fixation are seen with 30 per cent acuity. It seems to me that when the mind struggles to recognize more fully what the fuzzy words on the periphery are, the mind breaks to some degree, its concentration on meaning thus engendering a slight delay—a slight pause. Instead of trying, in the first place, to take large indigestible visual-bites, wouldn't it be better to take in the meaning of each word, from left to right, with a fleeting, but direct fixation on each word encountered, quickly seeing, discarding, and gliding over nonessential words, but taking in the meaningful ones? You may say, "Yes, but that is word-by-word reading." I reply, "Have you already forgotten that the average college reader took in 1.11 words per fixation which is practically word-by-word?" May I also ask, "How else does one read except by looking at the words?" Yes, not all words are equally important, so you can skip some. But how do you know which ones to skip without first looking at them? Let me also say that the speed readers make many, many assumption for which they have no proof.

My parting shot on this subject is: Does the mind somehow impose a single meaning instantly upon a cluster of words, or does it take meaning from each word individually? How do you know?

The Vocalization Argument

The teachers of speed reading attack vocalization and sub-vocalization with fanatical zeal. The speed-reading experts are constantly exhorting students to "break the sound barrier"; that is, to go directly from the printed symbol to the meaning. The speed-reading expert not only makes the assumption that vocalization is utterly bad, but also that it can be eliminated; yet he does not give any evidence that getting the meaning directly from the printed symbol can be done.

There are many learned men in the field of linguistics who strongly insist that to get meaning from the printed word depends upon how well the reader can furnish the oral counterpart to release the meaning which the reader already has.

McGuigan[2] at Hollins College, Virginia, in an extensive research study sponsored by the U.S. Office of Education, concluded confidently that the "thinking" which goes on during silent reading is actually "silent speech." This holds true for his subjects which range from age six through college adults.

Edfelt[3], Director of Reading Research at the University of Stockholm, concludes that "silent speech is universal during silent reading; it increases with the difficulty of the material; efforts to eliminate it should be discontinued."

Some researchers say that silent speech during silent reading might be a psysiological factor necessary to the process of reading. Gertrude Hildreth[4] says: "It is doubtful whether a child can become a fluent reader, comprehending fully what he reads, without a good oral language foundation and continued attention to oral language improvement." I take this to mean that the stronger the bond of association between its printed form and its sound, the more rapidly will the word be read and comprehended when later seen on the printed page.

A great psychologist, Edward Bradford Tichener[5], describes the way he reads: "When I am working for myself, reading or writing or thinking . . . my natural tendency is to employ internal speech; and there are occasions when my voice rings out clearly to the mental ear and my throat feels stiff as if with much talking."

We should take a closer look at some of the other techniques advocated by teachers of speed reading; such techniques as: focusing the eyes above the line of print; moving the eyes vertically down the page; reading while the teacher is counting out loud, or the metronome is ticking; and reading the words between the fingertips.

Does a baseball player focus his eyes two inches above the ball so he will see it better? If a flower garden has a series of horizontal paths, does one stomp through, making his own vertical path to see better the garden? Is the listening to the counting supposed to provide practice in concentrating on two activities at the same time? Is reading so easy that we wish to make it more challenging by blotting out some of the words with our fingers; or can we absorb some of the words osmotically through our fingertips?

Teaching Readers to Vocalize

In addition to other things, I have been teaching speed reading to businessmen over the past fourteen years. For the first seven years

I preached the standard approach of knocking out vocalizations of all sort, eliminating regressions, scooping up gobs of words at a fixation, and so forth. My very best lectures and demonstrations were in this area. It was enjoyable to teach.

After much reflecting, however, I made a gradual but nonetheless complete change. Since I could not find any real evidence that vocalization was bad, I adopted the common-sense approach and used it in my teaching over the last seven years. The common-sense approach briefly, as I relate it to the businessmen and students, is this: "It is not only all right to vocalize; actually you must vocalize if you want to understand what you read. Without vocalizing you will see but the empty shell devoid of meaning. Now, don't necessarily whisper the word, rather hear it mentally. In other words, I want you to use the technique of **intonation.**"

I am sure that many of us have experienced the insight gained when reading aloud an especially difficult paragraph which on several previous silent readings did not yield up the author's meaning. It seems that when we utter aloud the words spread out line by line on the page before us, we transmute the inert, lifeless, mummified inked-symbols into living sounds, dynamic and flowing like a living brook having power and life of its own. The linguists all remind us of the power of sound, by saying, "Remember the primacy of the spoken word."

From my records, I found that for the first seven years when I taught that vocalization was a bad habit, the mean speed and comprehension scores for the initial test were 280 words per minute with 86 per cent comprehension. The mean scores for the final test were 660 words per minute with 64 per cent comprehension.

For the last seven years when I not only encouraged vocalization, but taught students and businessmen to vocalize, the mean speed and comprehension scores for the initial test were 275 words per minute with 84 per cent comprehension. The mean scores for the final test were 850 words per minute with 78 per cent comprehension.

From these gross data I conclude that all the harangue about nonvocalizations, nonregression, eye fixations, reading vertically tends to hamper rather than facilitate the comprehension process. I say: There is no future in the non-vocalization—big fixation approach. Actually it leads to a dead-end.

Summary and Conclusion

Since the topic specifies a glimpse into the future, let me say that there is none for speed reading.

The only body of skills and techniques which have a future are the reading and study skills which a student must employ in his studying to master, to some degree, his academic work. For example, Robinson's SQ3R which is the mainstay of many good study skills programs and has helped multitudes of students is not a reading technique; it is a study technique. Now, Robinson's contribution in this case was his systematizing the indivdual steps whch have been known and used separately for centuries. Many of the old books advocate that the reader first **survey** his material before settling down to reading thoroughly. The **question, recitation**. and **review** steps were advocated by some of the early Greek and Roman writers.

I am not trying, in the least, to detract from Robinson, rather to give him credit for his system and synthesis. My point, however, is that we should not look for some **new secret** process which will automatically and miraculously turn us and our students into good readers; rather, we should take the existing ideas, techniques, and approaches to learning and adapt and systematize them to help our students, as well as ourselves toward more efficient learning—toward becoming independent studiers and independent learners.

Bibliographical References

1. Taylor, Stanford E. **Eye Movements in Reading: Facts and Fallacies.** Huntington, New York: Educational Developmental Laboratories, 1963.
2. McGuigan, F. J. **Silent Speech During Silent Reading.** Office of Education, U. S. Department of Health, Education and Welfare: Cooperative Research Project #1863.
3. Edfeldt, Ake W. **Silent Speech and Silent Reading.** Chicago: The University of Chicago Press, 1960.
4. Hildreth, Gertrude. "Linguistic Factors in Early Reading Instruction," **The Reading Teacher**, Vol. 18, (December 1964), p. 176.
5. Titchener, Edward Bradford. **Experimental Psychology of the Thought-Processes.** New York: The Macmillan Company, 1909.